THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

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EDUCATION AND UNITY.

THE dinner which was held by the Architectural Association in Bedford-square on Friday of last week was an occasion of great importance to architecture and architectural education. The *mise-en-scène* was happily arranged in the spacious new headquarters of the Association. The Right Hon. H. A. L. Fisher, President of the Board of Education, was present, as were the Rev. Canon R. D. Swallow (Education Committee, London County Council), Sir Reginald Blomfield (representing the Royal Academy, in the unfortunate absence of its President), Mr. John W. Simpson (President of the Royal Institute of British Architects), Mr. E. J. Sadgrove (President of the Society of Architects), and many other well-known architects and masters of architectural schools.

Architecture is the most practical of all the arts and it is only through the medium of those who profess it that the requisite knowledge of its practice can be acquired by students. The Architectural Association is in the closest contact with militant architecture. It occupies a unique and unassailable position in that its President, its Council, and the master of its school are all practising architects. During the Presidency of Mr. Leonard Stokes, the Architectural Association first opened the Day School for the education of London students. Now it has been decided to extend its good work to the provinces, beginning with Bristol, where a school will be opened in the Bristol Academy, and in co-operation with the Bristol Society of Architects. This extension to the provinces is the first step in a movement which must inevitably spread into the larger towns of the Kingdom, and ultimately throughout the Empire. The diffusion of architectural knowledge and the subsequent enlargement of ideas which will thus take place are bound to have a most beneficial effect upon architects and architecture. It is manifest that the community of ideas engendered by a general standard of education will prove of great value in uniting the profession. We congratulate the Architectural Association upon its enlightened policy. Here is evidence that the younger members of the profession are endowed with energy, capacity and initiative, which is of hopeful augury for the future.

Mr. Simpson expressed his wide sympathy with the aspirations of the Architectural Association, and indicated that the Institute is prepared to encourage its good work while leaving a great deal of autonomy to the School. He spoke of the function of the profession in the community, and strongly advised contact with realities and experience with practising architects rather than super-draughtsmanship. Service is an essential duty of the individual and of the profession as a whole, and it is gratifying to have views we have already urged endorsed by so eminent an authority.

Mr. Webb showed himself deeply impressed by the necessity of specialised training. The general education now offered in the schools, supplemented by actual office experience, should meet the claims of ordinary practice. A more sustained course is needed for those who aspire to design the complex buildings which have become so important a feature in the civil architecture of our times. In our opinion, the architect of the future will require a large and highly organised staff to assist in designing and supervising his work. Wide knowledge, capacity and generalship are demanded, and an exhaustive and comprehensive curriculum must be followed to fit the architect-in-chief for the task. Regarded in this sense, the number of assistants employed in some American offices, referred to by Sir Reginald Blomfield, seems normal, and a similar change may be expected in the composition of architects' offices in this country.

The alternative to this is that sections of the practical work, which should be retained under the direct control of the architect, will pass into the hands of specialists and experts. Thus new professions will undoubtedly be created, as has happened in the past. Architects will then be displaced or become mere consultants in the æsthetics of architecture, without any real knowledge of structure, and gradually will lose touch, with building as a constructive art.

In his modest speech at the Association dinner, Mr. Maurice Webb said that they were meeting to celebrate the completion of the first lap in the race of reconstruction which they started immediately the Armistice was signed. The second lap may be said to have been concluded on Monday last, at the meeting of the Royal Institute of British Architects; in Conduit-street. On that auspicious occasion, a large body of members unanimously resolved to authorise the Council to appoint a Committee, representing the whole profession, to prepare a scheme of unification and registration. A report of the meeting is published on another page.

The importance of the occasion was fully appreciated, and much suppressed anxiety existed amongst the members as to what decision would be reached. It must have been with a sense of relief and a general feeling of satisfaction that the result of the vote was announced. Details of the scheme were wisely left to the new Committee, which will start with a clean sheet and with wide powers. The time is now ripe for a broad and progressive policy, and we trust that some of the younger men will be included on the Committee; their initiative and unabated ardour will be invaluable in the forthcoming deliberations. The experienced elders are in sufficient force to ensure that undue risks will not be taken.

Mr. Horace Cubitt supported the resolution on behalf of the Associates whose strong opposition in the past to anything which seemed likely to prejudice their status has, we hope, disappeared. The sympathy and tolerance shown by Mr. Cubitt with the present proposals must have given considerable satisfaction to the President and Council. Mr. Welch emphasised the importance of propaganda, and strongly urged that the work of the Committee should not be done behind closed doors. The President is probably of the same opinion, as he stated that, unless unanimity was obtained, the proposals could never be of permanent value. In this connection, we believe the publicity given by the professional Press must have been of great assistance to architects and architecture. We are especially glad to think that the *Builder* has been of some service in bringing about this happy result. Narrow, prejudiced and fanatical views are best combated by freedom of speech. Our columns have been available at all times to the profession and every opportunity given to promote and develop the interests of architects and architecture in accordance with the best professional traditions. It is with keen satisfaction, therefore, that we find unanimity of view amongst architects, and we anticipate from this a great renewal of strength for the profession.

NOTES.

The R.I.B.A. Meeting. We refer in our leading article this week to the far-reaching importance of the decisions of the Special General Meeting of the Royal Institute of British Architects on Monday—decisions which, by their unanimity indicate, we believe, the steady growth of opinion in favour of both unification and registration of the profession; and although a great deal of hard work and discussion will be necessary before the desired objects are attained we believe the meeting will be a memorable one, and that the President was not too sanguine in his concluding observations on the significance of the decisions arrived at. We think it will be agreed that the unanimity of the meeting was due in no small measure to the tactful manner in which Mr. Simpson conducted the proceedings, and he is to be congratulated, as well as the Institute and the profession at large, on what has so far been accomplished. Under the guidance of a President less experienced the result might well have been different. A report of the meeting appears elsewhere in this issue.

Sketches in San Remo.

[These sketches in San Remo are by Mr. Leolin C. Gregory, A.R.I.B.A., and include the Cathedral of San Siro, near the market, and a view from the Via Palma of the tower of this church, below being one of the earthquake arches characteristic of the district.]

A Representative Committee. That the Committee which is to be appointed to carry out the wishes of the General Meeting is to be representative of the whole profession will be realised from the list of societies mentioned in our report on p. 353; but it may be wondered how representatives are to be obtained from those practising architects who do not belong to any organised society. The President himself answers this question. "We propose to offer them," he said, "the use of these galleries and to invite them to the Institute. I am sure the professional Press will assist us in spreading this information." This invitation will, we hope, be accepted, and we have pleasure in giving full publicity to it.

The Architectural Association. The dinner of the Architectural Association which was held on Friday last week at the premises of the Association, at Bedford-square, a report of which appears on another page, was a successful function in every way. It was a happy idea to hold the dinner in the rooms of the Association itself, and thus give an opportunity to guests to see something of the rebuilding scheme which has now been carried out to adapt the premises to the needs of such a progressive body, and we hope the Council will decide to hold all functions of this kind in future at Bedford-square. Another innovation which helped to make the dinner a success was the presence of ladies, who were not wanting in their appreciation of some excellent after-dinner speeches, in the course of which several references were made to the admirable work carried out in the schools under the guidance of Mr. Robert Atkinson, the headmaster. The Council of the Association had arranged to hold a conversazione at Bedford-square on Friday this week, but in consequence of a slight outbreak of measles in the schools the fixture has been cancelled.

Government and Architects. The very able speech by the Right Hon. H. A. L. Fisher, Minister of Education, will be read with interest, as well as other speeches, while the President of the Institute, Mr. J. W. Simpson, made some very pertinent observations to the effect that architects both in France and America are far from satisfied with the architectural education adopted, and that the American Education Board had stated that the work in the American architectural schools "automatically established a criterion of taste utterly unrelated to modern life, and that it followed as a matter of course that the public and Government officials did not ask advice. This was illustrated when the American Government selected as heads of its Housing Department men who had not the slightest prior knowledge of the subject!"

An Act of Vandalism. It would seem almost incredible that nowadays there should be found any town authority willing to sacrifice its interesting heritage from the past for any purpose whatever. Yet the Berwick Town Council is actually contemplating such action by the removal of the Scots gate to provide "a unique and suitable site for a modern memorial" to the fallen in the war. Such action, as Mr. W. D. Caroe says, can only arise from a total lack of appreciation or ignorance of the peculiar interest and importance of the town and its remarkable antiquities.

City Churches. The report of the Commission on the City Churches seems likely to deal with the subject in a reasonable and moderate spirit, but we suppose the architectural world will regret the disappearance of any which have the least claim to merit. The towers and spires of some city churches are an asset so unique that their religious value appears to have become one of their least claims to retention if there are fifty churches for the needs of the population

Local Production Committees. In "General Housing Memorandum No. 22," extracts of which we published last week, the Ministry of Health suggests the formation by local authorities of Production Committees. These bodies, which it is suggested shall be composed of a chairman and four members appointed by the local authority, two members appointed to represent the employers, and two to represent the operatives of the building industry, shall endeavour, with the assistance of the Production Officer of the Housing Commissioner, to overcome any difficulties which may arise on account of a shortage of labour or materials, or on account of delay arising through transport. It is anticipated that an ever-increasing number of housing schemes will be begun as the year advances; certainly if the number of tenders so far approved may be taken as an indication, we may expect that the year will be a busy one, and as a precautionary measure against delay in the actual building operations, each local authority would be well advised to follow the Ministry's suggestion.

"Luxury" Building. A further duty of the Production Committee is that of advising the local authority in the exercise of its statutory powers for the regulation of building under Section 5 of the Housing (Additional Powers) Act, 1919. For the guidance of the Committee, the Ministry suggests that building works which interfere with the provision of working-class houses should be classified into three categories. The works of low

Sketch in San Remo.

category will be those of least public importance, such as places of amusement, licensed premises and buildings which, it may be assumed, will neither create employment nor enhance revenue; the intermediate category will include buildings which, though not immediately necessary, are of a speculative nature, such as the provision of offices, stores, factories; whilst the high category should include industrial buildings of private ownership which, it may be presumed, will result in increased employment and enhanced revenue. It will be remembered that in connection with the power to suspend building operations which is conferred upon the local authorities by the Additional Powers Act, an Appeal Tribunal is now sitting at the Ministry of Health.

Economics in Relation to the Present Crisis.

The papers recently read by Sir Ambrose Poynter, Bart., and Sir Charles T. Ruthen, O.B.E., at the Society of Architects, threw fresh light on this important subject, and started lines of thought which, if developed and acted upon, might do much to improve the present unsatisfactory conditions. Sir Ambrose made a great point when he stated that in all relations between man and man the human element must ever be kept in view. Men have, at times, been treated as machines. Most of us are human, subject at times to mental, moral and physical infirmities which do not tend to assist business relations. In construction a factor of safety is allowed to cover defects of materials and workmanship; in human relations defects of character must be allowed for, and it is a mistake to make rules on the assumption that mankind is in a state of primeval perfection.

Capital and Labour.

In his paper, an abstract of which we give this week, Sir Charles Ruthen showed that capital and labour must be persuaded to approach their problems from a fresh point of view; the latter must acknowledge the importance of brains and not delude itself with the idea that everything depends upon muscle. He showed that workmen, by restricting output, were delaying the provision of houses and adding enormously to the cost. They have to pay their share of the increased cost, if not in increased rent in increased taxation, directly or indirectly. Sir Charles and others who can put unpleasant facts in a pleasant way would confer a great favour if they would address meetings of workmen and show them that the working man is not a mere individual but an integral part of the State, and that if the State suffers, as it must if certain ways are not mended, the parts will not escape. Good fellowship is the cement which binds all together; if it is not forthcoming all will be chaos.

A Ministry of Fine Arts.

The demand for a Ministry of Fine Arts crops up periodically. *The London Mercury*, in this month's issue, advances a number of reasons in support of the proposal. The writer asks: "Is there not an overwhelmingly strong case for a Ministry of Fine Arts?" and yet his arguments tend rather to point the contrary way. It is no doubt true, as the writer states, that the Government does at present exercise functions in which æsthetic questions are largely involved, and that "it could not conceivably be worse than it is." This does not appear on the face of it a very promising argument for a Ministry of Fine Arts. For who would form this Ministry? Would all the Ministers and public officials retire who in one way or another carry out these functions at the present time? They are, we suppose, responsible for the state of things to which the *London Mercury* objects. Or does the writer suggest—a very common superstition just now—that to call a thing by another name will change its character? Otherwise, the proposal is nothing less than a demand to fortify and entrench what is already, in the judgment of the writer, very unsatisfactory. Would a Ministry of Fine Arts protect us from a Nurse Cavell Memorial? Everything points to the opposite conclusion. If we are bound to have "official" art, let us not at any rate be bound by it. Is it a time, when official administration is so much on its trial, to place more control within its hands? Such a proposal under present conditions is a further menace to the liberty of the arts, and should receive no encouragement.

The State and the Arts.

Under wholly different circumstances it might be possible to make out a case for the closer co-ordination of State activities in relation to the arts. But we have to judge of its usefulness in relation to present tendencies. Is it a time when commercial interests and material aims so largely dominate, to surrender further into the hands of public men the interests of art. This dependence on organisation and administration, as though to multiply officials were any remedy, suggests a want of independence and manly self-sacrifice in the arts which is their greatest need. No Ministry of Fine Arts can do for art what it can only do for itself.

Sir Edwin Lutyens, R.A.

With the election of Sir Edwin Lutyens as a Royal Academician we have now five architects who are R.A.'s. Sir Edwin is beyond dispute a worthy recipient of the honour, for he has infused a new spirit into modern architecture. In addition to his love of adventure he is equipped with a fine intuition for proportion and distinction, and a spirit of refinement goes with all his work, so that our curiosity and criticism are never wanting in flavour. He is fortunate in getting many people to share his own belief in himself, as the extent and variety of his practice demonstrate. The profession is very really indebted to him for the creation of a fresh interest in the art of architecture. Little heard in public speech or writing, he is an admirable talker, and the best of companions. Though he owes much to his friends, it is to his own intuitive ability that he owes his reputation as an architect.

Sketch in San Remo.

GENERAL NEWS.

The Easter Holidays.

Owing to the Easter Holidays, our next issue will be published on Thursday, April 1. Matter for publication in our editorial pages must reach the Editor by first post on Tuesday, March 30.

Professional Announcements.

Mr. F. Milton Cashmore, A.R.I.B.A., has removed from 18, London-street, E.C., to 26, Old Burlington-street, W.1.

On the release of Windsor and Regent Houses, Kingsway, by H.M. Government, Messrs. Trehearne & Norman have removed to more spacious premises in Windsor House, adjoining those originally occupied by the firm in Regent House. Telephone, Regent 6140.

Mr. F. Willey, F.R.I.B.A., has been appointed principal education architect for the County of Durham, with the general direction of all work in connection with the planning, building and repairing of school buildings and other educational institutions in the county.

New Royal Academicians.

Sir Edwin Lutyens, A.R.A., and Mr. H. Hughes-Stanton, painter, were last week elected Royal Academicians.

R.I.B.A. Roll of Honour.

The *Journal* of the Royal Institute of British Architects announces the following additional names of members who have fallen in the war:—

J. H. Aitken (S.), W. Beattie-Brown (Lic.), F. P. Skepwith (Lic.), G. V. Spurway (S.), J. G. Swinton (S.).

The Royal Academy of Arts.

For this year's exhibition, and till further notice, exhibits in frames other than gilt frames will be admissible, but frames of extravagant design or colour, or of unusual material, should be avoided as likely to cause difficulty in arrangement.

The Church Building Society.

At the last monthly meeting of the Incorporated Church Building Society, held at 7, Dean's Yard, Westminster, the Hon. Sir E. P. Thesiger, K.C.B., in the chair, grants were made towards building the first portion of a new church at East Bolden, Co. Durham, £75; and a mission church at South Shields, S. Francis, £50; and towards repairing the churches at Litherland, St. Andrew, Liverpool, £20; Selhurst, Holy Trinity, Surrey, £20; Thorn Falcon, the Holy Cross, near Taunton, £30.; Land Croughton, All Saints, Northants, £50; a grant of £40 was paid towards enlarging Christ Church, Bwlchgwyn, near Wrexham, and one of £75 towards repairing St. Saviour's Church, Holloway, Middlesex. £182 was also paid towards small repairs to 16 other churches. The Society appeals for funds in order adequately to help the many pressing cases of church repair which are constantly being brought before it.

Appointments in South Africa.

Several architects' assistants are required for the Public Works Department, Pretoria, South Africa, at inclusive salaries ranging from £548 to £632 per annum. Applications should be made to Mr. J. A. Swan, F.R.I.B.A., Daimler House, Paradise-street, Birmingdam.

Housing Exhibition at Amsterdam.

A housing exhibition is to be held at Amsterdam from May 1 to June 7. The exhibits will be limited to decoration, furnishings and fittings. Applications for space should be made to Mr. F. W. Bridges, 36-38, Whitefriars-street, E.C. 4. The present rate of exchange with Holland should favour participants in the British Section.—*Board of Trade Journal.*

British Engineering Standards Association.

The councils of the technical institutions who founded the Association have nominated the new members of the Main Committee, to take effect on March 31. The Main Committee will then be constituted as follows:—Sir Archibald Denny (Chairman); Sir Maurice Fitzmaurice, C.M.G. (Vice-Chairman); Sir John Aspinall, Sir Arthur Duckham, Sir William Ellis, Sir William Matthews, Mr. Alexander Ross, and Dr. W. C. Unwin, nominated by the Institution of Civil Engineers; Sir Henry Fowler, Sir Vincent Raven, and Dr. Willian H. Maw, nominated by the Institution of Mechanical Engineers; Dr. Arthur Cooper, Mr. M. Mannaberg, and Mr. Benjamin Talbot, nominated by the Iron and Steel Institute; Sir W. E. Smith and Sir Thomas Bell, nominated by the Insittution of Naval Architects; Col. R. E. Crompton, Sir John Snell, and Mr. C. H. Wordingham, nominated by the Institution of Electrical Engineers; Mr. F. W. Gilbertson and Mr. F. R. Davenport, co-opted to represent the Federation of British Industries; Sir Charles Parsons, Sir Richard Glazebrook, Sir Robert Hadfield, co-opted by the nominated members.

REGISTRATION OF ARCHITECTS.

The following is a *précis* of the scheme passed by the members of the Royal Institute of British Architects in 1914 for the registration of the profession. At the meeting, on Monday last (reported on p. 353), the members passed a resolution empowering the Council to prepare a more extended and comprehensive scheme:—

The Charter to enable the R.I.B.A. to constitute and maintain a Register of persons who have shown: (*a*) in the first instance by the possession of certain qualifications; or (*b*) in the future, and after the first establishment of the Register, by their having passed certain prescribed tests—that they are qualified for the practice of architecture. All persons so inscribed on the Register to have the right to call themselves "Registered Architects," but only Corporate Members of the R.I.B.A. to have the right to call themselves "Chartered Architects."

In the first instance, there shall be inscribed on the Register—

(*a*) Fellows, Associates and Licentiates of the R.I.B.A.

(*b*) All such members of Allied Societies in the United Kingdom as are engaged in the practice of Architecture and are recommended by the Councils of those Societies and approved by the Council of the R.I.B.A.

(*c*) Any person who shall prove to the satisfaction of the Council of the R.I.B.A. that at the date of the granting of the Charter he had been for at least two years engaged as a principal in the *bona fide* practise of architecture, or had served for ten years as pupil, apprentice, or assistant, or partly as one and partly as the other, to a person or persons who, at the date of the granting of the Charter, is or are entitled to be enrolled on the Register; and who shall be approved by the Council of the R.I.B.A.

No applications for admission to the Register under 3 (*b*) and 3 (*c*) to be entertained after six months from the date of the granting of the Charter.

The "prescribed tests" shall be the examinations qualifying for admission to membership of the R.I.B.A., and candidates who have passed the examinations shall be eligible for membership of the R.I.B.A.

The Register to be administered by the Registration Board of the R.I.B.A. The Board's powers to be limited to reporting to the Council, by whom the required action will be taken.

Representation on the Registration Board to be given to Licentiates and to registered architects not being Corporate Members or Licentiates. In all other regards, the constitutional position of the Licentiates to remain as at present.

The members of the Registration Board not to exceed 23, in the proportion of 10 Fellows, 7 Associates and 6 registered architects, of whom at least three should be Licentiates, until such date as the class of Licentiates shall have expired.

The R.I.B.A. to be empowered to issue a scale of fees payable to Architects on the Register.

The by-law in regard to the Board of Architectural Education to be revised so as to confer upon certain schools of architecture the privilege of representation on the Board.

EXHIBITIONS OF THE WEEK.

The Fine Art Society.

The exhibition of bronze statuettes, etc., by Alfred Gilbert, is enough to make the architect wonder where are the fine sculptured figures by this artist adorning many of our public buildings. The set of three statuettes, "Faith," "Hope" and "Charity," and the fine medallion "Dull Care Rideth Behind," suggest so much of the possibilities this notable artist might have realised for us that it does seem a real misfortune so comparatively little is seen of work of this quality. There are two sizes of the statuette of "Victory," and the small scale one, about 7 in. high, shows a most delightful result. It is a pleasure to see this work of so accomplished an artist; note the fine bust of Robert Glasby, a statuette of "Literature," and a finely designed casket in metal and marble. There are other interesting works here also, by Pomeroy, Hartwell, Reid Dick, Mackennal, Drury, and Thornycroft. The continuous success of Mr. Reid Dick in his sense of decorative repose will be noted by all who are looking for sculpture of a high order.

We have seldom received more pleasure from genuine watercolour work than the varied and

[The Twenty-One Gallery.

Mosque at Epirus.

interesting examples by Mr. A. Reginald Smith. The clever handling of the medium is charming in its results as (65, 10, 7, 14, etc.). Note the vivid effect of a rain cloud in (48), the white light in "Nether Heselden," and in No. 51. Some of these drawings are well-nigh perfect within their limits and intentions, as "Fleeting Shadows" (63), and "The Skirfare Bridge" (45). The "Night" (43) shows that the artist has no hard limits in his methods with such contrasts as this and Nos. 15 and 31.

It is not an easy transition from the before-named delicate drawings to the rich landscape effects in oil by the Hon. Walter J. James, but some of the more reticent of these are very successful, as No. 3, "Chattlehope," and Nos. 24, 25, and 37.

The Twenty-One Gallery.

Some powerfully painted impressions of Greece are on view at the Twenty-One Gallery, by Michel Economou, whose visions are forcible and arresting. The colour is alternately brilliant and subdued, but successful in both ways: the fine colour of hills in "Mount Rotini," and the view of the "Acropolis—Twilight," show with what skill the two extremes are treated. These paintings are all virile and interesting.

UNIFICATION AND REGISTRATION OF THE PROFESSION.

A SPECIAL General Meeting of the Royal Institute of British Architects was held at 9, Conduit-street, W.1, on Monday last, Mr. John W. Simpson (President) in the chair, for the purpose of obtaining the sanction of the general body of members for the Council's proposals for the unification and registration of the profession. There were about 40 Fellows and about 63 Associates present. The following resolutions were moved by the President on behalf of the Council:—

(1).—"That this General Meeting of the Royal Institute of British Architects approves of the Council's proposal to prepare and present for the consideration of the profession a more extended and comprehensive scheme than that covered by the Resolutions of 1914." *

(2).—"That this General Meeting of the Royal Institute of British Architects approves of the Council's proposal to appoint a Committee representative of the whole profession to prepare such a scheme as is indicated in the report of the Charter Committee, dated February 20, 1920." The Council proposed that this Committee should be composed of representatives of the Royal Institute of British Architects, Allied Societies in the United Kingdom, the Architectural Association, the Society of Architects, the Official Architects' Association, the Architects' and Surveyors' Assistants' Professional Union, and architects not belonging to any professional organisation.

The PRESIDENT, in opening the meeting, pointed out that the Resolutions did not commit the Institute to any definite scheme or policy, but solely provided the machinery for preparing and submitting one to the members. By the terms of the Charter, Licentiates were not permitted to vote on the subject, although they were permitted to be present. The business of the evening, he said, was of importance, perhaps more on account of what it implied than what would actually be done. The laying of a foundation stone did not advance a building very far, but it signified that the underground work had been prepared and the superstructure had been begun. The basis of their present enterprise was laid in 1914, under the presidency of Sir Reginald Blomfield, when the members sanctioned in principle certain modifications of the Charter. They met that night to lay the foundation-stone of a great structure—the unification of the profession—and he would be very thankful indeed if the structure could be erected during his term of presidency, because he thought he could render no greater service to those who had elected him to the chair. The war had taught them the value of united effort under single control. They were convinced that so long as they spoke with different voices, and sometimes inevitably dissentient voices, they would never obtain the hearing in public affairs to which their profession was entitled. Unity was strength. As the result of the resolutions of June 24, 1914, the solicitors to the Institute were instructed to prepare a petition to the Privy Council for a new Charter in order to allow for the registration of the profession, but the war intervened and the instructions remained in abeyance. As soon as the new Council was elected it set up a Committee to prepare a new Charter and to make another effort to unify the profession, and a resolution was passed to that effect. Owing, however, to his (the President's) unfortunate illness at the beginning of the Session, no definite action had been taken. The Charter Committee went on with its work, and it became apparent that circumstances had changed since the resolutions of 1914, and that the general body of members ought to be consulted as to whether a more extended and comprehensive scheme should not be prepared. It seemed obvious, too, that to deal only with the Charter might not be consistent with the Council's intention to unify the profession. On the contrary, a cut-and-dried proposal which fell in any way short of satisfying the universal desire for internal concord might promote serious opposition and might even widen the division between members within the Institute and those outside it, and this view he entirely concurred with.

He then moved Resolution (1), which, he said, was merely to clear the ground for further action.

MR. HORACE CUBITT, who seconded this resolution, said he was speaking on behalf of the Associates, and wished to express the appreciation of that section of the membership on his being asked to second the resolution. Some of the Associates had felt in the past that they were not sufficiently consulted in regard to changes in the affairs of the Institute, but he was sure that the calling of that meeting and the way the question they were dealing with had been put before it would make it clear to the Associates that they were receiving every possible consideration in the matter. It seemed to him that the Institute for some time past had two alternative policies—the policy of exclusion and the policy of inclusion. At one time it adopted almost solely the policy of exclusion. It restricted its membership to the rather limited number of people who were already Fellows or who were Associates through examination. Then, some ten years ago, it decided to adopt the Licentiate class, and it seemed to him that by that step the Institute changed its policy from one of exclusion to one of inclusion. The present proposal to proceed with the unification and registration of the profession was, he suggested, merely an extension of that policy to bring in the Licentiate class. Many in the past had been opposed to the introduction of the Licentiate class, but the experience of the past few years had shown that their inclusion had resulted in a very considerable gain to the whole profession.

MR. H. WELCH proposed that in order more clearly to define the purpose of the resolution the words "for the unification and registration of the profession" be inserted after the word scheme. This was seconded by MR. SIDNEY PERKS, and carried.

MR. PERKS asked whether the resolution would commit the Institute to amalgamation with any other society, and the PRESIDENT informed him that the resolution committed the meeting to no definite policy or scheme.

After further discussion, the resolution, as amended, was unanimously adopted.

The PRESIDENT then put the second resolution to the meeting. In 1911, he said, a scheme was proposed for the amalgamation of the Society of Architects with the Royal Institute. That failed, and it failed because of the very obstacle which the second resolution was designed to avoid. A cut-and-dried scheme was brought forward, involving, perhaps, some sacrifice in the position of the members of the Institute, especially in the position of the Associates, without first making sure that it was acceptable to those chiefly concerned in its effects. Instead, however, of bringing forward a scheme the substance of which was practically unknown, they now intended that representatives of all the interests of the profession should have their share in its framing. They were all at one in seeking the advancement of civil architecture and in improving the position of the practising architect, but they all had not the same views as to the best methods of attaining those objects. There were various interests to consider, some local and some particular, but he was sure that none were unwilling to give and take with a view to supporting the common end desired by them all. The delegates appointed to the proposed Committee could keep their Councils informed of matters as they proceeded, and whatever scheme was formulated it would be agreed by the whole profession before it was promulgated for general acceptance. The Committee must necessarily be a large one, but it would not be necessary for it to meet very often as a whole. Nothing was to be rushed. There would be some difficulty with regard to obtaining representatives from those architects who did not belong to any organised society, but the Institute proposed to offer them the use of its galleries and to invite them to the Institute. It was also proposed to hold special meetings for Licentiates. The fixing of the proportionate numbers of the respective representatives would involve consideration of statistics, values, &c., and would be a delicate matter best left to the Council. The Council would regard its duty in that matter as judicial and would arbitrate in the fairest possible manner. It seemed to him that the question of numbers was not so very important, because it was clear that no mere majority vote would satisfy their objects. They must be unanimous about it.

MR. PAUL WATERHOUSE, in seconding Resolution (2), said that a proposal had been set before them that they should set up a deliberative assembly, and it would be better if the deliberations were left to that body. He wished to express his entire sympathy with the spirit in which the resolution was framed.

MR. H. C. CORLETTE expressed the opinion that representatives of allied societies other than those in the United Kingdom should be invited to attend the deliberations of the proposed Committee, and suggested that the resolution be so worded that overseas allied societies might be associated with the work of the Institute.

The PRESIDENT said they would be delighted to accept the proposal, but they were dealing with registration, and the allied Societies outside the United Kingdom had their own schemes. If it were meant that they should devise a registration scheme which would be operative throughout the Empire, he thought they would have some difficulty.

MR. HURST SEAGER also spoke in favour of the suggestion of Mr. Corlette, and an amendment was passed deleting the words, "in the United Kingdom."

MR. GEORGE HUBBARD mentioned the case of the Belfast Society of Architects. That Society, he said, although in the United Kingdom, was not allied to the Royal Institute, and its members, therefore, were not provided for in the list of those to be represented on the proposed Committee, as they did not belong to any of the Societies specifically mentioned, and also did not come under the heading of "Architects not belonging to any professional organisation."

In order to include members of the Belfast Society, it was decided to amend that part of the resolution, so that it should read "Architects not belonging to any of the above professional organisations."

The second resolution, as amended, was then put to the meeting and carried unanimously.

The PRESIDENT congratulated those present on passing the resolutions, and said he thought they had done far more than appeared on paper. He was not at all sure that they had not by that act already unified the profession. Did it not occur to them that by setting up that Committee representative of all the interests in the profession they had formed a body which, if it were made permanent, would become the General Council of Architects? It might become a College of Architects, or anything they pleased to make it, and that body would be representative of the whole profession. Questions of education and examination would be dealt with by a more qualified Board of Architectural Education, although he hoped it would be under the same chairman. Registration and a crowd of other matters could be dealt with by

* A précis of these Resolutions is given on p. 352.

such a body, and it appeared to him to have solved the whole problem.

That concluded the business for which the meeting was specifically convened, and the President then invited those present to express their views on the matter.

Mr. W. R. Davidge said that by passing the resolution they had not only cleared the ground, but had also dug the foundations. They had decided that the building should be of a permanent character. No doubt they would not be so unanimous as to the style of architecture in which the building would be designed, but they would have the lines of a building which would be permanent in character and which would inspire the profession.

Mr. T. Welch said he thought it was of the most vital importance that the work should be carried on very carefully and at once by the body set up for the purpose. Perhaps the best course would be to get into touch at once with all the Societies connected, even remotely, with architecture in the British Isles and abroad. What they had neglected in the past should be a lesson for the future, and they should endeavour at once to get into touch with the societies in the provinces. That was a vitally important matter; in the past, the provincial societies had been too much neglected. If they could promote the proposals for registration and unification, and could select a number of members of the proposed Committee to tramp the country and inaugurate propaganda work in every centre where they had allied societies, they would educate the whole of the profession along the lines on which they wanted to proceed, and when the time came they would have few difficulties to face. The essence of the success of the project in view was the measure of publicity given to the work. A cut-and-dried scheme worked up behind closed doors was fated to be still-born. He trusted that the Charter Committee would remove the obstacles which prevented Licentiates from voting, and that they would not allow members of the architectural profession to suffer from an injustice which the nation itself would not tolerate.

The President, in concluding the meeting, said that the Council was aware of the necessity and advisability of proceeding as soon as possible with the scheme, for the reason that if the Committee of the whole profession decided to promulgate a Registration Bill, they would do so under such circumstances as had never before presented themselves. They had reason to believe that the Surveyors' Institution and the engineers' institutions were ready to join with them, and if three professions went forward together they had a good chance of getting what they wanted.

MEETINGS.

Saturday, *March* 27.

Architectural Association.—Visit to Syon House, Brentford.

Monday, *March* 29.

Royal Institute of British Architects.—Election of Royal Gold Medallist, 1920, followed by paper by Mr. Delissa Joseph on "Higher Buildings for London." At 9, Conduit-street, W.1. 8 p.m.

Tuesday, *March* 30.

Royal Sanitary Institute.—Mr. J. H. Clarke on "The Duties of Sanitary Inspectors in Relation to the Housing Acts." At 90, Buckingham Palace-road, S.W.1. 6.30 p.m.

Wednesday, *March* 31.

St. Paul's Ecclesiological Society.—Mr. F. E. Howard on "Some Mid-Suffolk Churches and their Woodwork." At Chapter House, St. Paul's, E.C. 8 p.m.

Thursday, *April* 1.

Edinburgh Architectural Association.—Mr. J. A. Arnott on "Notes on the Architecture of Belgium." At 117, George-street, Edinburgh. 8 p.m.

Mr. Guy Dawber has been appointed by the Urban District Council of Greenford as architect for its housing schemes. Plans are in progress for the erection of 80 houses, to be followed ultimately by some 150 others.

CORRESPONDENCE.

Architects' Licence Law.

Sir,—I had hoped to defer further constructive criticism until after the projected R.I.B.A. meeting, but I am forced, against my wish, to refute certain erroneous statements by Mr. Butler in your last issue.

I venture to suggest that it is always advisable to understand the meaning of a statement before contradiction. If Mr. Butler will turn to his letter in your issue of February 27, he will see that he has written therein that the Society cannot prevent "outside" individuals from entering a competition. "Power to prohibit," therefore, may be taken as meaning, in this case, the power to issue a veto which shall be binding on every member of the profession. It would seem advisable that in the preparation of the proposed Licensing Act the approved conditions of contract be embodied that all may read.

That Mr. Butler cannot have understood the short digest of the Architects' Licence Law is clear from his statement that "there is nothing to prevent them, i.e., joint stock companies] from doing architectural work under some other description." Whether he means other description of work, or other description of stock company, is not so clear, but in either case he is entirely wrong, for the Act goes on to permit of the employment by such joint stock company of licensed architects who are liable to all the provisions of the Act, and who would be entitled to the established fees for this work.

Mr. Butler passes over Sect. 8 summarily; I suggest that he read it again, when he will see that it deals with anyone, joint stock company, other body, or individual who practises architecture without licence. I do not wish to labour a point so obvious, but it will be clear that to practise architecture under such an Act, it will be necessary to have the requisite knowledge, particularly so in view of the section which deals with the revocation of licences for, amongst other things, "gross incompetency."

He will, perhaps, state what persons are permitted by Sect. 9 to practise architecture other than architects, as his unsupported statement cannot be accepted in face of the wording of the Act. Opinions as such are interesting, but when as in this case they are contrary to established fact the interest is evanescent.

To one so well informed it would be presumption to name the States in which the law quoted is enforced. It must be that all the architectural societies in England have copies of all such laws. Therefore I would suggest to Mr. Butler that he deal not so lightly with Sect. 10, but that he read it again and yet again. He will then see that the hypothetical licence of the butcher, the baker and other excretions of an over-mellowed age may be speedily revoked.

H. Bryant Newbold.

A Manchester Appointment.

Sir,—In your issue of February 13, last, the Manchester Corporation advertised for a temporary housing manager for the direct labour section, and invited applications "from persons who have had practical experience in purchasing plant and materials, in the direction of different classes of labour, in the erection of dwellings and estate development," &c. It was further stated that "only applications from persons with experience and a thorough knowledge of such work will be considered."

The *Manchester Guardian* now reports that the Housing Committee recommends the appointment of the Secretary of the Operative Bricklayers' Society, Manchester Area, who is also Chairman of the National Executive of the Bricklayers' Society and associated with the Manchester Building Guild Committee, for this position.

S. Norman.

Bedford.

John Carr.

Sir,—Too little has been known, or thought, of a really great North Countryman like John Carr. I feel sure others will be as grateful as I am to Mr. Brierley for allowing the bust to be reproduced in your recent issue. There is also a portrait of Carr in the old vestry at Horbury Parish Church, given by a descendant. I have been puzzled, however, by the reiteration of the story that Carr "began life as a working mason." Allowing for all the pomposity of that generation, I can hardly believe that Carr would have inscribed a tablet to his father's memory in such terms as he had done, if it were not compatible with some semblance of truth.

The inscription runs as follows:—

"M. S.

"Roberti Carr architecti: Viri, non caducis Atavum Titulis, fucatove Divitiarum splendore, insigniti, sed, ob praestantiores Animi ac Ingenii Dotes, Aeternitate vere digni. Is enim erat, qui, ab ineunte Aetate, optimarum Artium Amore quodam incredibile flagrans, ingenitas Naturae Vires adeo feliciter Excoluit, ut, dum quicquid vel jactat Architectura, vel in multiplici Mathematicorum Arte delitescit, unice calluit et promovit, Scientiae tantae Gloriam Innocentiâ singulari, Morum Sauvitate, Pietate non simulatâ; per totum Vitae Curriculum, exornaret. Obiit Die Decemb. iii. A.D. MDCCLX."

"Aetatis suae LXIII"

Below this inscription—which remarks that he was "not distinguished by the transitory honours of ancestry"—is added a shorter memorial to his widow, "Rosa Carr, daughter of John Lascelles, Esquire," &c.

From the above, it seems probable that the family fortunes were laid by Robert who, however deficient in gentility, managed to marry into some branch of a great county family, and that their son John started in a much more normal way than your note (and popular repute) would have us believe. It is interesting to note that one of John Carr's most important works was for the head of that very family to which his mother belonged. I am afraid this is taking up too much of your space, though the life and influence of John Carr merit a good deal more attention than they have yet received, overshadowed as they have been (I think unduly) by such contemporaries as the brothers Adam. Carr's own epitaph is also of interest, but I must not burden you further.

H. C. Windley.

Bisley, Stroud, Glos.

"Is England a Free Country?"

Sir,—Enclosed is a letter I have received. Will you kindly insert it in your paper, and also inform the public that I am very pleased to say I have men in my employ who are non-union men and the work is going on as usual? I have applied to another firm for the goods I ordered, and they will be delivered forthwith.

F. Newton.

Hitchin.

[Copy.]

Mr. F. Newton,
Tilehouse-street,

"Dear Sir,—We regret to say that we have received an intimation from the Carpenters' and Joiners' Union that you are on their Black List. As this is the case, we are unable to carry out any work for you that requires wood-workers' labour on same.

"We are, yours faithfully, . . ."

Protest against Direct Labour.

The Hull Building Trades' Employers Association has issued a protest against the action of the Health Committee of the Corporation in recommending the erection of 250 houses by direct labour. The secretary states that the Association, on February 13 undertook the erection of 500 houses within 12 months, but on March 13 the Housing Commissioner informed them that it was impossible to proceed with the scheme on the prices quoted for the plans.

ANNUAL DINNER.

Architectural Education.

The Architectural Association held a dinner on Friday last week at 35, Bedford-square, W.C. This was the first dinner the Association had held for six years, and the first it has ever given in its own premises, the alterations and additions to which are now nearly completed. The chair was occupied by the President, Mr. Maurice Webb, M.A., F.R.I.B.A., and amongst those present were the Right Hon. H. A. L. Fisher (President of the Board of Education), Sir Reginald Blomfield, R.A., Mr. John W. Simpson (President Royal Institute of British Architects), and Mr. Ian MacAlister, (Secretary of the Institute), Mr. G. Gilbert Scott, A.R.A., the Rev. Canon R. D. Swallow (Education Committee, London County Council), Prof. A. E. Richardson, F.R.I.B.A. (London University School of Architecture), Mr. Herbert Wigglesworth, Mr. E. J. Sadgrove (President of the Society of Architects), Mr. McArthur Butler (Secretary of the Society), Mr. Fitzroy Doll, Professor Beresford Pite, Mr. John Slater, Mr. W. Curtis Green, Major Harry Barnes, M.P., F.R.I.B.A., Mr. Robert Atkinson (Headmaster, A.A. School), Mr. Guy Dawber, F.R.I.B.A., Mr. H. Lovegrove, Mr. M. T. Waterhouse, Mr. Stanley Hamp, Mr. Arthur Keen, Mr. Lionel Budden and Lt.-Col. H. P. Cart de Lafontaine. Sir Aston Webb, P.R.A., owing to indisposition, was unable to be present.

After the loyal toasts had been honoured, Mr. Maurice Webb proposed "The Future of Architectural Education." The Association, he said had lost about 100 of its promising members during the war, and in the room they were in that night they hoped to house the library which was to be formed in their memory. They were very fortunate in having as their guest Mr. Fisher, the fountain-head of all education in this country. That Mr. Fisher was in that position was particularly fortunate for architects, as he looked with a very kindly eye upon architecture and upon the educational efforts of the Association. The School was the part of the Association which had absorbed all their time and energy. When the Armistice was signed they had 20 students, but within three months of that date that number had increased to 200. They had worked under great difficulties owing to the scattered positions of their premises. Fortunately plans had been prepared for a new building, but the problem was how to start. The difficulty was solved by Sir Henry Holloway, who lent them £10,000 at a low rate of interest. They would shortly be issuing an appeal to pay off that debt, and he hoped that they would collect much more than that sum so that an endowment fund could be founded. Three hundred new members had been elected since the Armistice, and the Association was being incorporated as a company in order to stabilise its position. They hoped in a few days to open a portion of the premises as a club, and it was one of the great assets of the Association that students always had the opportunity of meeting practising architects. At present the school was full up, and it was full up for next year. They had nearly 200 students, and so far as he could see that number was not likely to drop during the next few years. That was partly due to the temporary conditions following the war, and partly to the rapidly diminishing number of pupils entering architects' offices in London, and, more slowly, in the provinces. The reason for that was that a large number of young men had learned in the Army the value of a regular, systematic course of training. Mr. Atkinson, the headmaster, had built up for himself a great reputation as an architectural teacher, and had also built up a great reputation for the School. It was very unusual to find a man with great talent for architecture who had at the same time a great talent for teaching, but Mr. Atkinson had both. They also owed a great deal to the Secretary, Mr. F. R. Yerbury. The Association had received applications from many parts of the country from students and young architects asking the Association to provide some sort of architectural education in their districts. The Association was doing so in the case of Bristol, where it had arranged, in conjunction with the Bristol Society of Architects, to start a school at the Bristol Academy, where the students would have the advantage of association with painters and sculptors. He believed there was a great future for architectural education in the provinces, and the Association would do all it could to provide educational facilities in parts where there were no existing schools. There were two rather weak links in the architect's training. One was the fact that some men had not enough elementary training. After a man left the Day Course his architectural education for all practical purposes ended, and it appeared to him that systematic training should be provided for men after they had entered offices. There were plenty of prizes, scholarships and examinations, but he felt that they wanted a school of architecture where the best students could carry on what they had begun. He thought that if a conference of the various bodies interested in education, including the Royal Academy, the Royal Institute of British Architects, the various schools and the Board of Education were called together, some such scheme might be formulated. It was a scheme worthy of the best consideration. The architect must be an artist all the time, and he must be a well-trained artist.

Mr. H. A. L. Fisher, in responding, said that the architectural profession appeared to him to be the most fortunate of professions, but there was a "fly in the ointment" in that the angle of domestic comfort was not always the angle of artistic ideas. These harsh discords between high art on the one hand and finance on the other were, he imagined, the sole troubles of the most fortunate career in the world. Architectural education in this country had not been the creation of the State or the municipalities; it had sprung from individual enterprise, and was none the worse for that. He hoped that the proposed association between the Board of Education and the A.A. School might be an association from which both the State and the architectural profession might derive benefit. The A.A. did invaluable work for the profession and the country in providing facilities for the education of intending architects. There was a time when the young architect was compelled to pick up the rudiments of his science in the office of a busy architect, who could only throw him crumbs of his scanty leisure. But it was now realised that something more systematic was needed if the profession was to keep up its high level. While the School educated the architect, the architect educated the public. Goethe had said that it was essential to humane education that men should live in the neighbourhood of a noble building, but there were many people in this country who had no opportunity of living near a noble building. There were many towns in which there was not only not a noble building but not even a respectable building. The bad architect had hitherto possessed an auxiliary which might not be with him much longer. This was the smoke emitted from chimneys, which from time to time, when lighted with the rays of the setting sun, was capable of turning the ugliest building into a fairyland of iridescent, soft, mellow tones. But he was informed that before long the towns would be relieved of the smoke nuisance, but before they passed from the age of smoke to the age of clearness he hoped that architecture would be redeemed and that the A.A. would have succeeded in supplying an army of architects capable of showing that a building, however utilitarian in its purpose, or however cheap its construction, might nevertheless contribute to elevate the taste of the community.

Sir Reginald Blomfield also responded, and said that the problem of architectural education was an extremely difficult one, which had to be watched almost from day to day. Had they lived 150 years ago it would have been easy enough. In those days everybody knew what they had to do and how to do it. When he came to London 40 years ago he was faced with a programme which it would have taken three lives to get within the fringe of, and he hoped that the A.A. would not overload its programme. Rather it should set out an irreducible minimum, and also insist upon its being material. The architectural camp was at present split up into two forces. One believed that the future of architecture lay in design in one form or another—Classic, Roman, Gothic—and the other believed in "sacking the lot" and getting back to the plain facts of construction in the vague hope that beauty would grow of itself out of the facts. He did not believe in either of these theories, but thought that the truth lay between them. The academic design had its merits, but after a time it became mere pedantry; on the other hand, the plain facts of construction could not speak for themselves. It was necessary to get down to the naked facts of construction before they could design at all, but one's mind must have material to work upon and the only way to furnish one's mind was to have an intimate knowledge of what had been done before. An appreciation of old buildings must always be an essential part of an architect's education. He hoped that England would always conceive an architect as an individual artist, and that those who were responsible for the training of the rising generation would always stand fast by that tradition. Since there had been architecture in this country all the best work had been done by individuals working by themselves and the result was the personal expression of their own ideals. He congratulated the Association on its atelier, from which he thought great things might be expected.

Mr. John W. Simpson, who also responded, said that he could tell them but little about the future of architectural education. The Americans were busy investigating their methods, and the French had an important Commission considering the subject. He had recently heard the astonishing assertion that if the American methods of architectural education had been adopted in this country, the value of the profession to the nation would have been properly recognised during the war. In this connection he read a quotation from the report of the American Education Board to the recent Convention of Architects, which stated that the work in the American architectural schools automatically established a criterion of taste utterly unrelated to modern life, and that it followed as a matter of course that the public and Government officials did not ask advice. This was illustrated when the American Government selected as heads of its Housing Department men who had not the slightest prior knowledge of the subject. The report continued: "The almost universal practice of teaching design without any contact whatever with the world of reality, and of imposing purely academic judgments upon the work accomplished by the students, develops a set of utterly false values with respect to architecture and the function

of the profession in the community. The majority of the problems do not even represent genuine situations; they are not related to actual experiences." The function of the profession in the community was the very keynote of constructive educational architecture, and therein lay the real value of the A.A. School. The A.A. had always looked towards practical rather than to academic accomplishment, and he begged that they would tenaciously hold to it and not compete with the futile feats of super-draughtsmanship which were lately fashionable. They had the inestimable value of a school controlled by practising architects, and their future was assured so long as they kept in contact with realities. The R.I.B.A. was, he thought, a little over-anxious about its offspring now that they had grown up, but he did not share that anxiety. A greater measure of autonomy for the schools would, he thought, be good for both them and the parent body. That was one of the matters he hoped to deal with during his presidency, together with the unification of the profession.

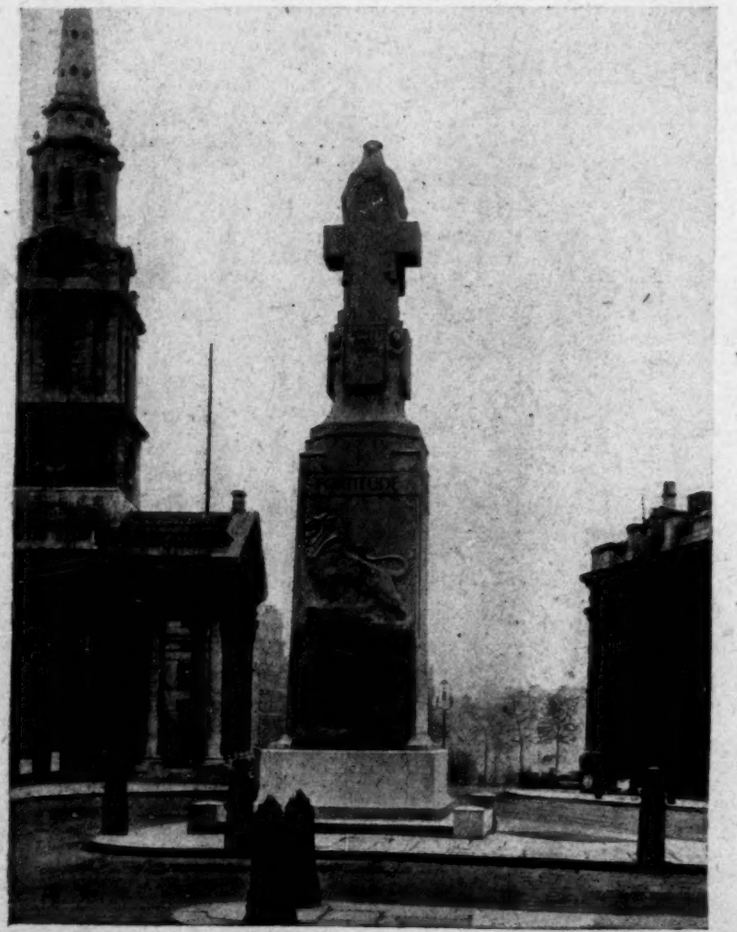
MR. G. GILBERT SCOTT, A.R.A., proposing "The Other Architectural Schools, and Our Guests," said the A.A. hoped to get the Education Committee of the London County Council interested in its work. The work of the architectural schools was of national importance, and in the past the result was seen of not employing architects in the design of the homes for the people. In the future he hoped that would be altered and the result would be reflected in those homes.

The REV. CANON R. D. SWALLOW, responding, said that the Education Committee of the London County Council was doing its best in the matter of architectural education, but there was very little it could do. There were schools of architecture at the Central School of Arts and Crafts and other places, and they were striving to give the boys and girls a good general education in the elementary schools. The L.C.C. would do all in its power to provide young people who showed promise in architecture with the means of maintenance whilst they were going forward with their work, if such cases were brought to its notice. He wanted architects to help to improve the standards of the school buildings, the staircases of which he thought were dull and dreary. Also, the buildings were all exactly alike. This was partly the fault of the overcrowding in London, as every inch of space had to be used, and the ratepayers' interests had to be considered. He appealed to the A.A. and the architects of London to devise a happier style of architecture than that adopted by the Board of Education.

PROFESSOR E. A. RICHARDSON, who responded on behalf of the other architectural schools, said that they had a very lively appreciation of the work of the A.A., and they were hoping for a closer relationship between the various schools. They were looking forward to the time when the students at the A.A. and at University College would attend lectures at either place. He did not believe in individualism in design, and mentioned that in America McKim never made a drawing himself and yet produced some of the finest work in that country. Also he did not believe in the practical man, to whom the artist would always rise superior.

The Royal Scottish Academy.

The following were last week elected Associates of the Royal Scottish Academy: Messrs. Malcolm Gavin, painter, Edinburgh; Walter C. Grieve, painter, Edinburgh; Andrew Douglas, painter, Edinburgh; G. H. Paulin, sculptor, Glasgow; Alexander Proudfoot, sculptor, Glasgow; and John Keppie, architect, Glasgow.



The Nurse Cavell Memorial.—SIR GEORGE FRAMPTON, R.A., Sculptor.

STOCKWELL WAR MEMORIAL EXHIBITION.

IT is gratifying to find that use is being made of the services of the Royal Academy War Memorials Committee, which is endeavouring to advise and assist those who may be contemplating the erection or construction of memorials.

The task of the Committee as assessors in the competition for the Stockwell War Memorial was not a difficult one, and, although it is a little doubtful if the choice for the second premium will meet with general approval, it must be remembered that the conditions limited the cost of the structure to £2,000, a modest figure which must exclude, for the most part, designs in which prominence is given to elaborate detail either of stone or bronze. The conditions of competition demanded a design for a clock tower the cost of which was not to exceed—exclusive of the clock—£2,000. The material was to be Portland stone combined, if desired, with Fareham red bricks. The site—in shape an isosceles triangle—is well situated at the junction of South Lambeth-road and Clapham-road, and the base of the triangle is bounded by Stockwell-terrace, a charming row of Georgian houses. It would seem that many of the competitors completely ignored this background, and, indeed, rather designed their tower, it might be thought, to harmonise with the Tube railway station, which is at no great distance from the site.

For the winning design Mr. Frank T. Dear, A.R.I.B.A., has produced a stone tower of excellent proportion and refined detail, depending for its effect on good massing and simple lines. The general character of the design is Neo-Grec, but it is happily free from any of the heavy and aggressive qualities which sometimes spoil much of the work executed in this once so popular style. The perspective sketch does not do the design justice, for the standpoint is so close to the tower that distortion is produced. The second premiated design, by Mr. James H. Greenwood, falls considerably behind that of the winner. The effect is one of extreme attenuation; slenderness without grace. This effect is, unfortunately, accentuated by the narrow pilasters at the angles, the whole width of the tower being insufficient to accommodate features of more generous proportions. The cornice is insignificant and the attic which surmounts it, crowned with a hipped pantile roof, seems to have little connection with the structure below. More interesting is the design submitted by Mr. E. E. Lofting and Mr. E. P. Cooper, which is awarded the third premium. A simple octagonal brick tower ornamented with a diaper pattern of darker bricks is covered with a lead-domed roof. Around the base of the tower a canopy is formed, carried on eight Portland stone columns with Tuscan capitals. The canopy is of lead, and the tower, from the point where it abuts down to the ground, is of Portland stone. The names are engraved on tablets under the canopy. The design, considered purely on its own merits, is good, but it would harmonise ill with the Georgian work against which it will, for the most part, be seen.

It must be admitted that the majority of the designs are not of a high standard; some, it would appear, being the work of amateurs; the whole exhibition emphatically refuting the contention so often advanced by a certain section of the public, that in order to produce a good design, the sole necessary requisite is an "artistic temperament." Without a thorough training in the forms and traditions of the past, the result is either crude and inelegant, or a conglomeration of senseless and ill-proportioned ornament. Several designs, however, are above such sweeping condemnation; of these mention should be made of a pleasant design by Mr. C. Upcher in brick and stone, reminiscent of good Renaissance work.

A few models are shown, and of these the most satisfactory is the one exhibited by Mr. Norman Tyrrell. The design would seem to be suggestive of the work of Alfred Stevens, than whom, for such work, no finer source of inspiration can be found.

MONUMENTS AND THEIR ENVIRONMENT.

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The Nurse Cavell Memorial.—Sir George Frampton, R.A., Sculptor.

of the profession in the community. The majority of the problems do not even represent genuine situations; they are not related to actual experiences." The function of the profession in the community was the very keynote of constructive educational architecture, and therein lay the real value of the A.A. School. The A.A. had always looked towards practical rather than to academic accomplishment, and he begged that they would tenaciously hold to it and not compete with the futile feats of super-draughtsmanship which were lately fashionable. They had the inestimable value of a school controlled by practising architects, and their future was assured so long as they kept in contact with realities. The R.I.B.A. was, he thought, a little over-anxious about its offspring now that they had grown up, but he did not share that anxiety. A greater measure of autonomy for the schools would, he thought, be good for both them and the parent body. That was one of the matters he hoped to deal with during his presidency, together with the unification of the profession.

Mr. G. Gilbert Scott, A.R.A., proposing "The Other Architectural Schools, and Our Guests," said the A.A. hoped to get the Education Committee of the London County Council interested in its work. The work of the architectural schools was of national importance, and in the past the result was seen of not employing architects in the design of the homes for the people. In the future he hoped that would be altered and the result would be reflected in those homes.

The Rev. Canon R. D. Swallow, responding, said that the Education Committee of the London County Council was doing its best in the matter of architectural education, but there was very little it could do. There were schools of architecture at the Central School of Arts and Crafts and other places, and they were striving to give the boys and girls a good general education in the elementary schools. The L.C.C. would do all in its power to provide young people who showed promise in architecture with the means of maintenance whilst they were going forward with their work, if such cases were brought to its notice. He wanted architects to help to improve the standards of the school buildings, the staircases of which he thought were dull and dreary. Also, the buildings were all exactly alike. This was partly the fault of the overcrowding in London, as every inch of space had to be used, and the ratepayers' interests had to be considered. He appealed to the A.A. and the architects of London to devise a happier style of architecture than that adopted by the Board of Education.

Professor E. A. Richardson, who responded on behalf of the other architectural schools, said that they had a very lively appreciation of the work of the A.A., and they were hoping for a closer relationship between the various schools. They were looking forward to the time when the students at the A.A. and at University College would attend lectures at either place. He did not believe in individualism in design, and mentioned that in America McKim never made a drawing himself and yet produced some of the finest work in that country. Also he did not believe in the practical man, to whom the artist would always rise superior.

The Royal Scottish Academy.

The following were last week elected Associates of the Royal Scottish Academy: Messrs. Malcolm Gavin, painter, Edinburgh; Walter C. Grieve, painter, Edinburgh; Andrew Douglas, painter, Edinburgh; G. H. Paulin, sculptor, Glasgow; Alexander Proudfoot, sculptor, Glasgow; and John Keppie, architect, Glasgow.

The Nurse Cavell Memorial—Sir George Frampton, R.A., Sculptor.

STOCKWELL WAR MEMORIAL EXHIBITION.

It is gratifying to find that use is being made of the services of the Royal Academy War Memorials Committee, which is endeavouring to advise and assist those who may be contemplating the erection or construction of memorials.

The task of the Committee as assessors in the competition for the Stockwell War Memorial was not a difficult one, and, although it is a little doubtful if the choice for the second premium will meet with general approval, it must be remembered that the conditions limited the cost of the structure to £2,000, a modest figure which must exclude, for the most part, designs in which prominence is given to elaborate detail either of stone or bronze. The conditions of competition demanded a design for a clock tower the cost of which was not to exceed—exclusive of the clock—£2,000. The material was to be Portland stone combined, if desired, with Fareham red bricks. The site—in shape an isosceles triangle—is well situated at the junction of South Lambeth-road and Clapham-road, and the base of the triangle is bounded by Stockwell-terrace, a charming row of Georgian houses. It would seem that many of the competitors completely ignored this background, and, indeed, rather designed their tower, it might be thought, to harmonise with the Tube railway station, which is at no great distance from the site.

For the winning design Mr. Frank T. Dear, A.R.I.B.A., has produced a stone tower of excellent proportion and refined detail, depending for its effect on good massing and simple lines. The general character of the design is Neo-Grec, but it is happily free from any of the heavy and aggressive qualities which sometimes spoil much of the work executed in this once so popular style. The perspective sketch does not do the design justice, for the standpoint is so close to the tower that distortion is produced. The second premiated design, by Mr. James H. Greenwood, falls considerably behind that of the winner. The effect is one of extreme attenuation; slenderness without grace. This effect is, unfortunately, accentuated by the narrow pilasters at the angles, the whole width of the tower being insufficient to accommodate features of more generous proportions. The cornice is insignificant and the attic which surmounts it, crowned with a hipped pantile roof, seems to have little connection with the structure below. More interesting is the design submitted by Mr. E. E. Lofting and Mr. E. P. Cooper, which is awarded the third premium. A simple octagonal brick tower ornamented with a diaper pattern of darker bricks is covered with a lead-domed roof. Around the base of the tower a canopy is formed, carried on eight Portland stone columns with Tuscan capitals. The canopy is of lead, and the tower, from the point where it abuts down to the ground, is of Portland stone. The names are engraved on tablets under the canopy. The design, considered purely on its own merits, is good, but it would harmonise ill with the Georgian work against which it will, for the most part, be seen.

It must be admitted that the majority of the designs are not of a high standard; some, it would appear, being the work of amateurs; the whole exhibition emphatically refuting the contention so often advanced by a certain section of the public, that in order to produce a good design, the sole necessary requisite is an "artistic temperament." Without a thorough training in the forms and traditions of the past, the result is either crude and inelegant, or a conglomeration of senseless and ill-proportioned ornament. Several designs, however, are above such sweeping condemnation; of these mention should be made of a pleasant design by Mr. C. Upcher in brick and stone, reminiscent of good Renaissance work.

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ILLUSTRATIONS.

Sketches in Egypt.

We give this week another illustration of the Ramesseum, from a drawing by Mr. Fitzroy H. Darke, who says that there is enough left of the Hypostyle Hall to give an idea of its splendid scale, and it is fortunate that a portion of the stone roofing remains, for wherever it has fallen it has broken away the lips of the beautiful calyx capitals, which, under the protection of such of the roof as is left, are still intact. These capitals are particularly graceful, with the curve of the bell accentuated by the lines of the lotus stems which spring from the base and grow upwards.

Oxford Improvement Scheme.

These designs, by Messrs. H. A. Gold, A.R.I.B.A., and W. J. Durnford, were placed fourth (highly commended) in the recent competition for the St. Aldate's improvement scheme, Oxford. The scheme provides a narrow road joining the three principal entrances as laid down in the conditions, with an open space in the middle of the site, from which the majority of the cottages and flats obtain some benefit. A passage is provided through the large block of flats facing the open space, giving access to the back passage for cleaning purposes. The accommodation is as follows: Five-room cottages: 4 pairs, 14,383 cubic ft. each; block of five, 13,200 cubic ft. each. Four-room cottages: three blocks of six, 11,000 cubic ft. each; one pair, 11,115 cubic ft. each. Three-room cottages: Block of five, 7,680 cubic ft. each. Flats: Six with 9,344 cubic ft. each, six with 8,634 cubic ft. each, and six with 9,652 cubic ft. each. Flats for old people: Two blocks of eight each, 3,484 cubic ft. per flat.

St. Mary-le-Strand.

Cleared from the mean houses which clustered about its northern side and east end, protected against the improvement scheme which at one time threatened its existence, the church of St. Mary-le-Strand rises bravely above the encircling streams of traffic, gives dignity to the great thoroughfare, and shows itself more worthily than ever its designer could have hoped. The steeple is a finely-conceived feature, the more creditable because Gibbs was hampered in its design by a change of mind on the part of the Commissioners, who ordered him to erect a steeple upon the foundations of the campanile which Gibbs had planned, and which had already risen twenty feet from the ground. The ingenuity with which Gibbs met their demand, arranging his steeple upon a restricted base, was worthy of his teacher, Wren, and testifies to his masterly and plastic use of Wren's style. The steeple is, indeed, as meritorious as all but the best work of Wren.

The interior effect is reposeful and dignified, and it gains, perhaps adventitiously but none the less forcibly, from the position of the church in one of the busiest thoroughfares in the world. From the roar of the Strand we pass through a little fore-court into the stillness of a sanctuary. This fore-court is not the churchyard; that was in a street off Drury-lane, and the horrible state into which it fell in the eighteenth century was described by Charles Dickens in Chapter XI of "Bleak House." The interior of the church has two orders, corresponding to those of the exterior. The upper contains the windows, and the lower is solid, as Gibbs explained, to keep out the noises of the street.

PHILIP S. HUDSON, A.R.I.B.A.

The Zeebrugge Memorial.

We illustrate this week one of the designs (No. 30) submitted in the Zeebrugge War Memorial Competition, and recently exhibited at the Royal Institute of British Architects. In our criticism of the designs, published in our issue of December 19 last, we said:—"... No. 30 is the most attractive. It is a very skilful composition of columnar outline designed almost without mouldings and with bronze panels in the base. Both outline and detail are good, but it just misses the brilliance of the winning first and second designs."

The authors of this design have attempted primarily to give expression to the unique character of this daring exploit, and in a style as suitable as possible to the hard and durable material in which it will be built, amongst desolate and devastated surroundings, they have endeavoured to conceive a memorial free from the more conventional elements of design and as restrained and virile as possible.

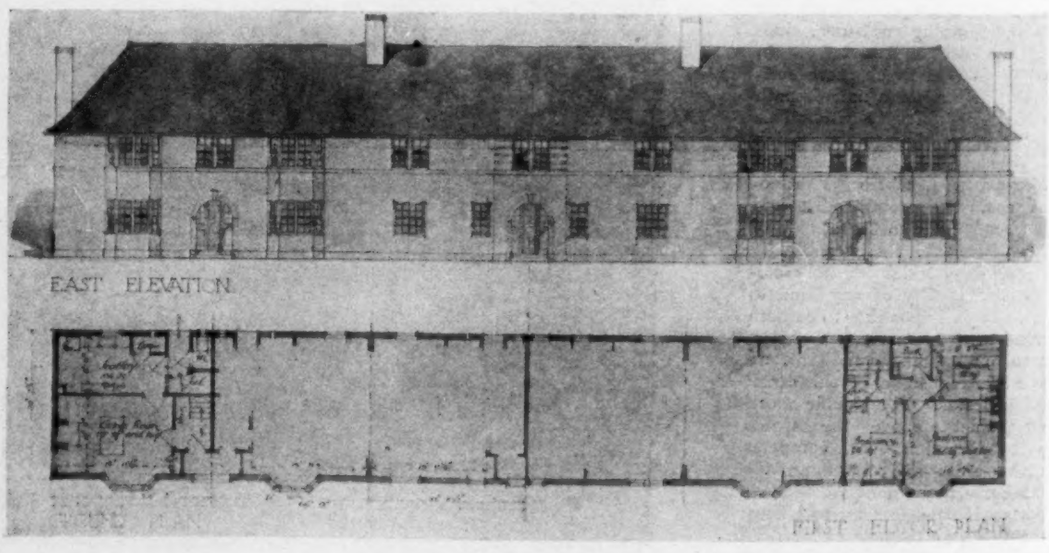
The approach to the monument is by a broad flight of steps, at the top of which is an altar. The subsidiary altars at the sides of the monument provide space for the inscription of the names of those who gave their lives. Above the altar is a frieze of eight bronze panels, through which passes an eager procession of Volunteers—suggesting the victorious progress through the succeeding episodes of the attack, which are depicted in the background of the panels. A series of receding blocking courses above this frieze completes the plinth portion of the monument, on which stands a tall column. The base of this column is in the form of a drum adorned by cartouches displaying the arms of the allied nations; between these in panels are the names of the ships engaged. The column is crowned by a heroic male figure 12 ft. high, symbolising in its pose the barring of the canal, and thus summarising the nature of the achievement.

The principal secondary factors that have influenced the authors have been: (1) To build the monument to such a height (114 ft. over all) as shall make it a mark from a great distance at sea, and of such form as may be seen with equal advantage from all sides, while limiting themselves to such a proposal that might reasonably be considered as possible of erection in view of the sum of money that would be available; (2) Throughout the design to handle the granite with all possible restraint, both from the point of view of harmony with the inherent nature of the material and also in helping the expression.

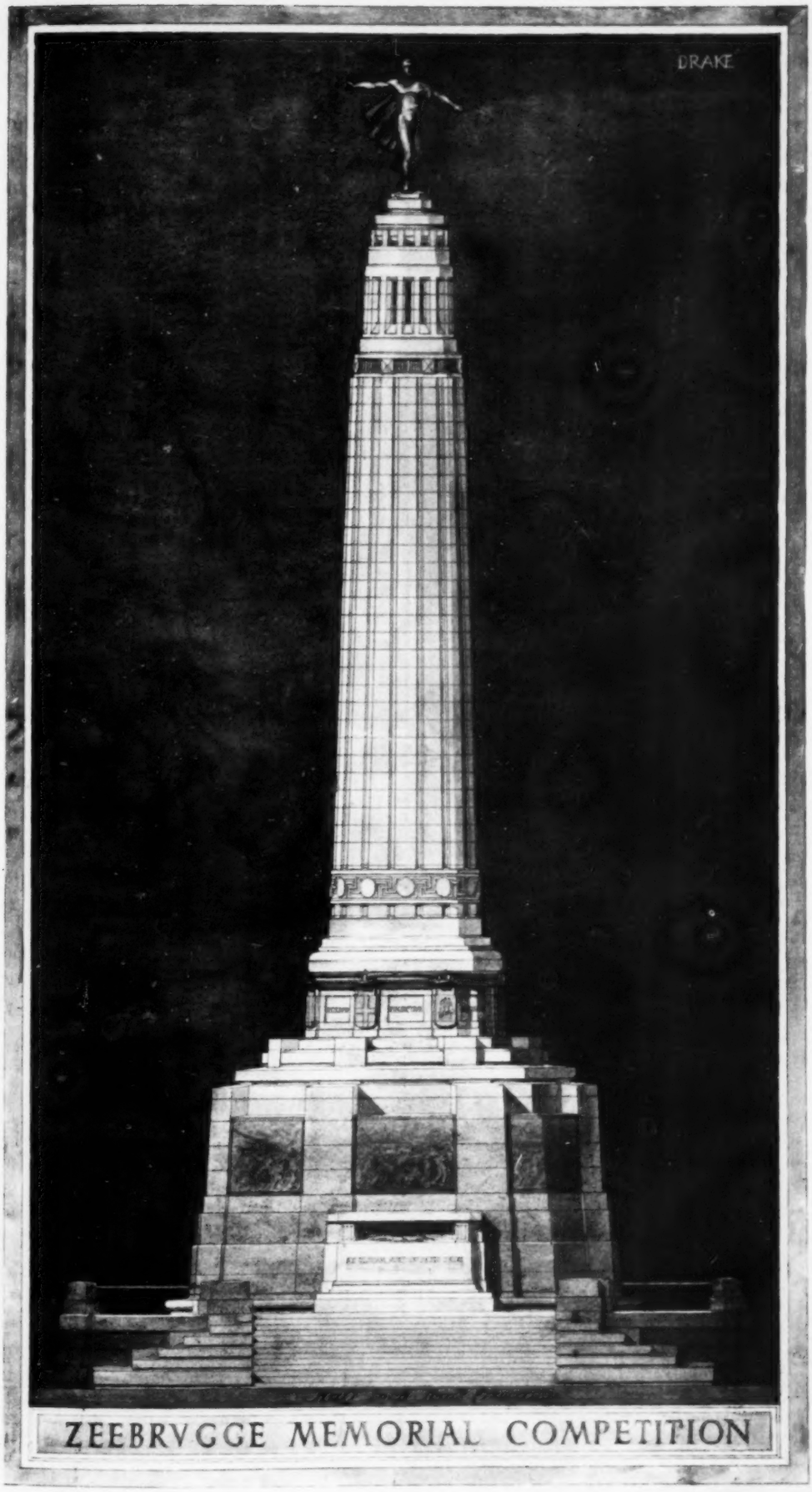
It was proposed that the monument should be entirely faced with an average of 15 in. of granite built on a brick core. The shaft would be hollow, as also would be the lower portions, the shaft going right through them down to the foundations. It was thought that a door should be designed to give access to the interior.

The bronze panels, cast in low relief, illustrate: (1) The departure; (2) The co-operation of aircraft; (3) Use of smoke screens by naval craft; (4) Blowing up of the viaduct; (5) Storming of the Mole; (6) Blocking of the canal entrance; (7) Rescue of the block-ship crews; (8) The return. At the rear of the monument is a low relief of St. George and the Dragon, which helps to keep alive the memory of the day upon which the attack was made.

The figures as to the cost have been supplied by a London firm, who estimated the approximate cost for the erection of the monument in granite with brick core, including scaffolding, to be £25,000. This sum does not include foundations. The design is by Messrs. A. Wilby, A.R.I.B.A., and V. O. Rees, architects, and Mr. G. Tooby, sculptor.

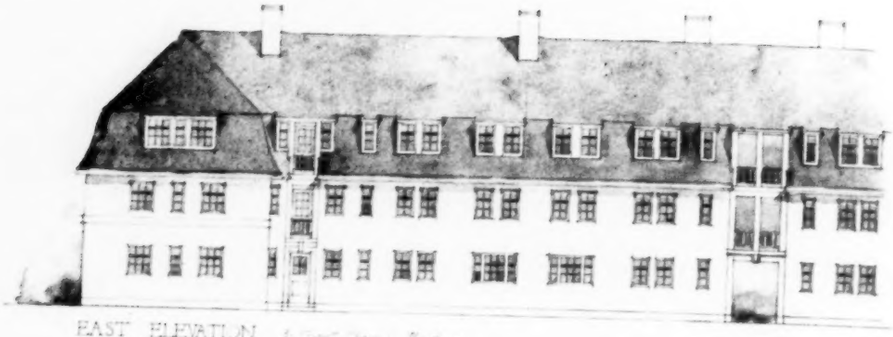


St. Aldate's Improvement Scheme, Oxford.
Design placed fourth, by MESSRS. H. A. GOLD, A.R.I.B.A., and W. J. DURNFORD.

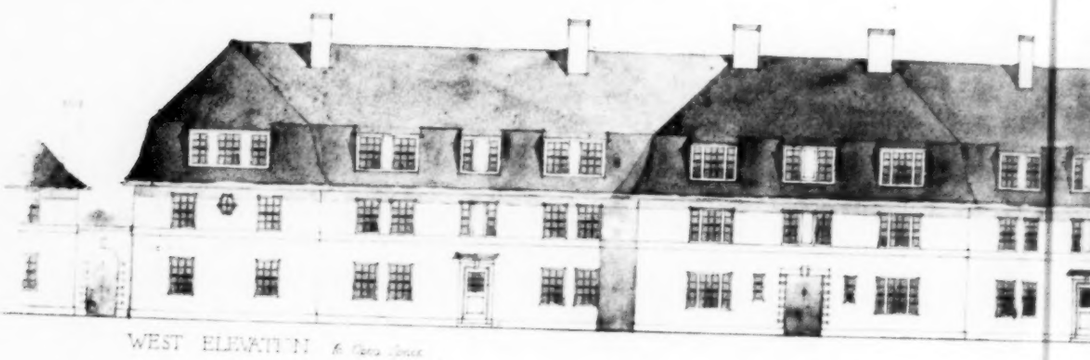


DESIGN BY MESSRS. A. WILBY, A.R.I.B.A., AND V. O. REES, ARCHITECTS, AND MR. G. TOOBY, SCULPTOR.

BLOCK OF 18 FLATS



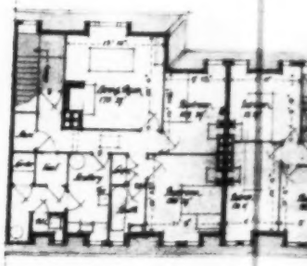
EAST ELEVATION

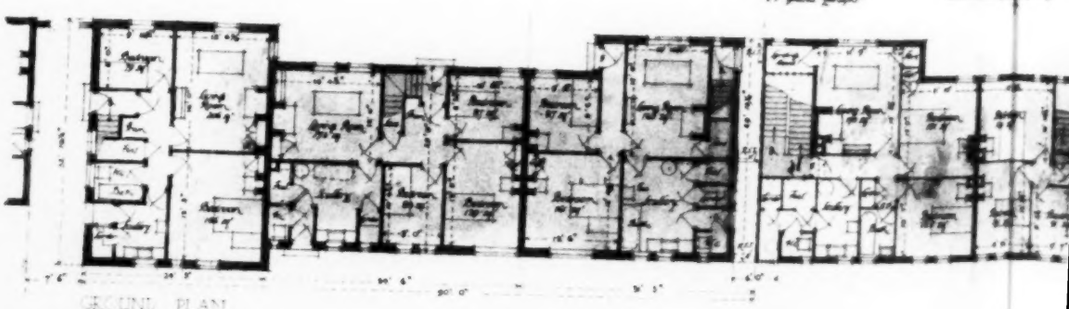


WEST ELEVATION

CITY OF OXFORD
IMPROVEMENT COMPETITION
ST ALDATES

Scale of feet





GROUND PLAN

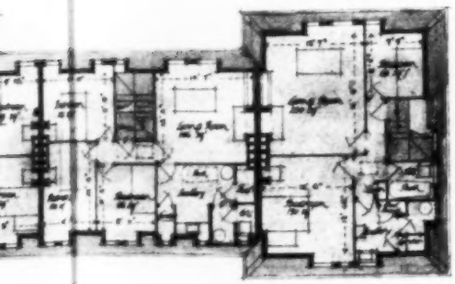
DESIGN PLACED FOURTH, BY MESSRS. H. A. GOL

PAIR OF 5-ROOMED COTTAGES

END ELEVATION

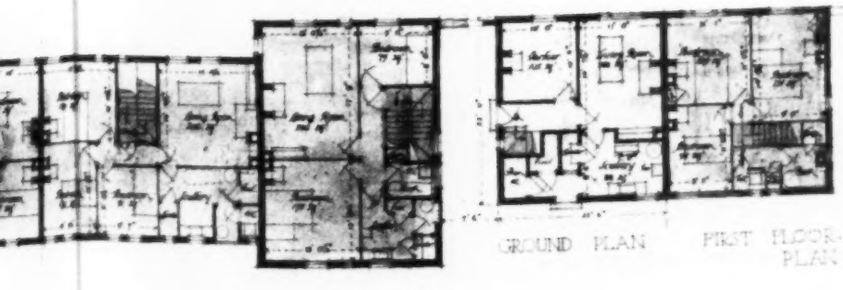
EAST ELEVATION

WEST ELEVATION



SECOND FLOOR PLAN

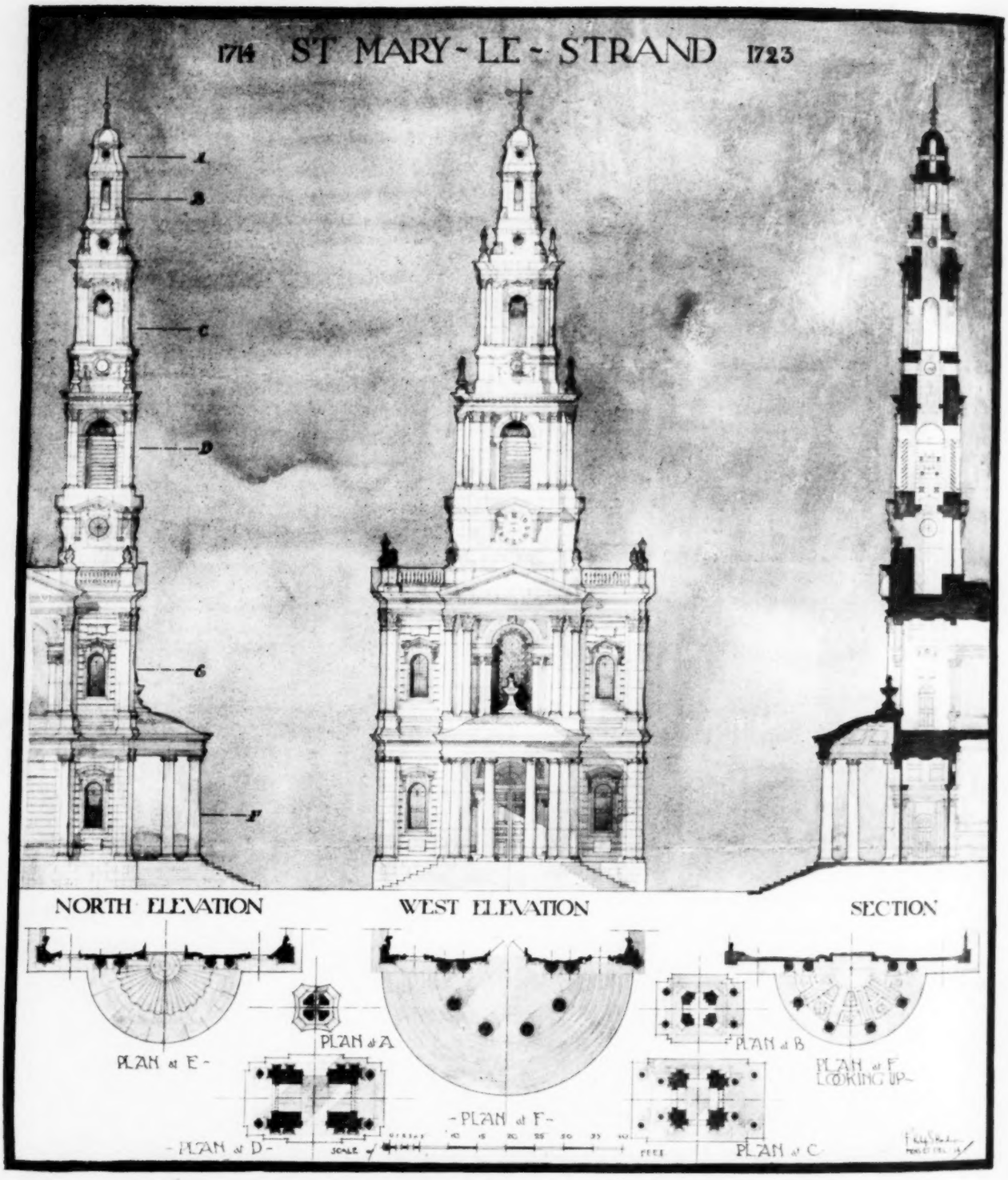
MATERIALS



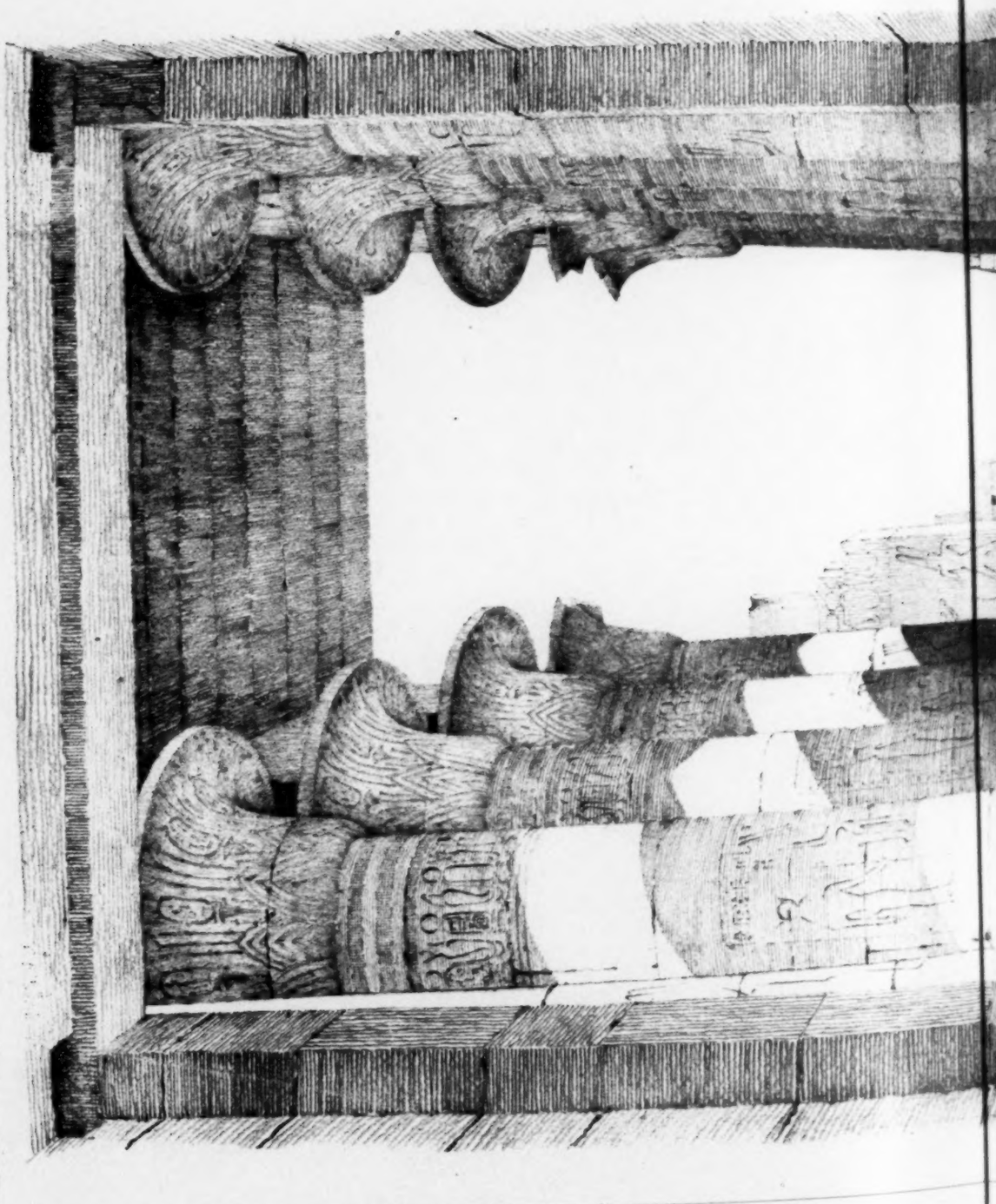
FIRST FLOOR PLAN

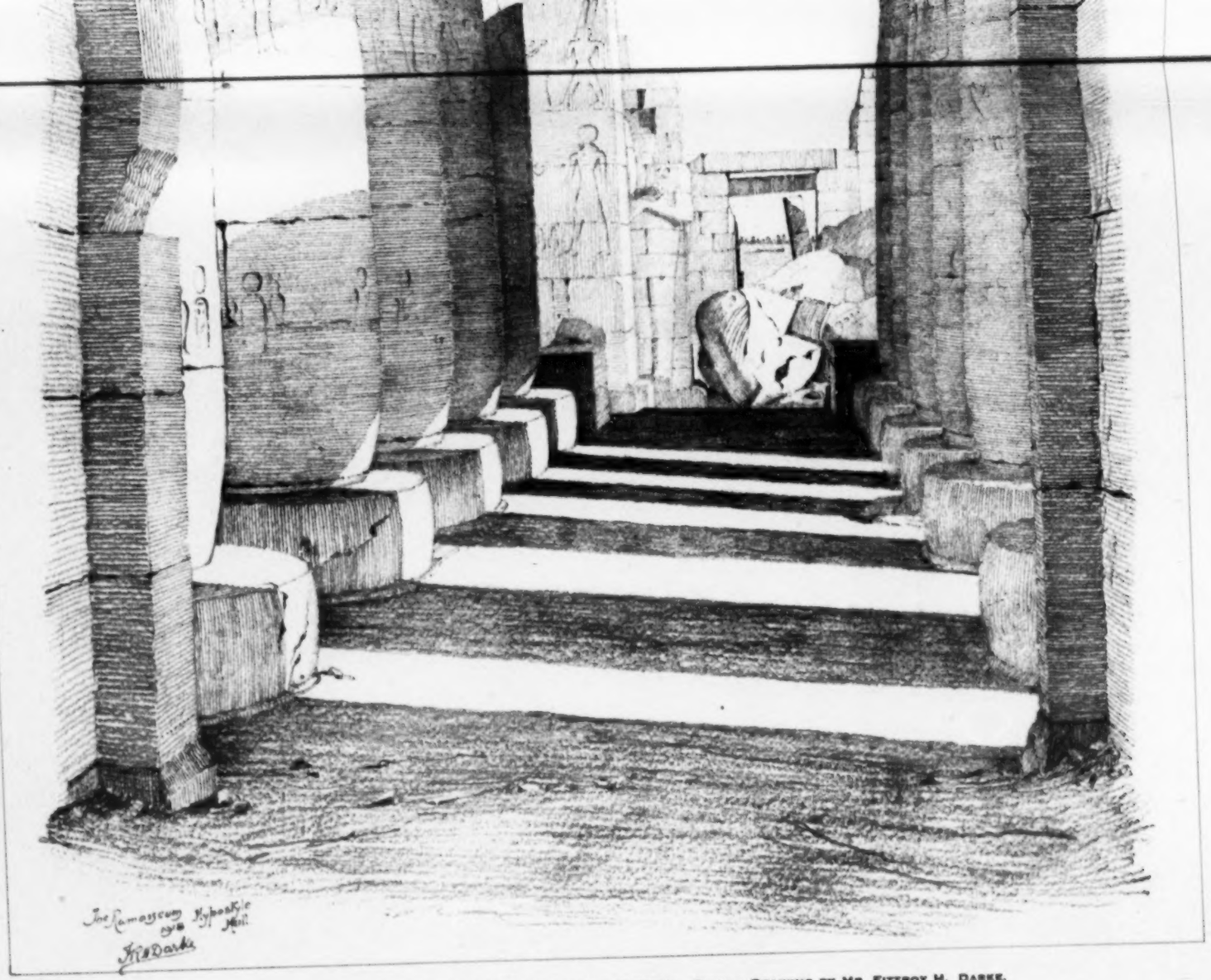
GROUND PLAN FIRST FLOOR PLAN

MESSRS. H. A. GOLD, A.R.I.B.A., AND W. J. DURNFORD.

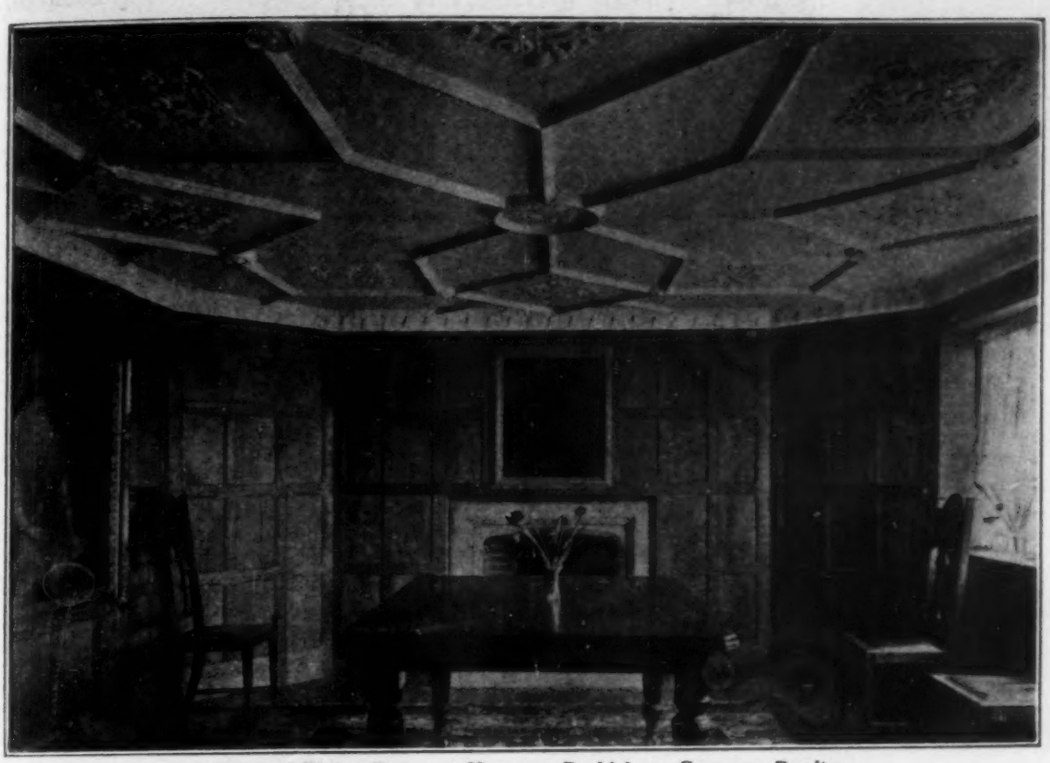


FROM A DRAWING BY MR. PHILIP S. HUDSON, A.R.I.B.A.



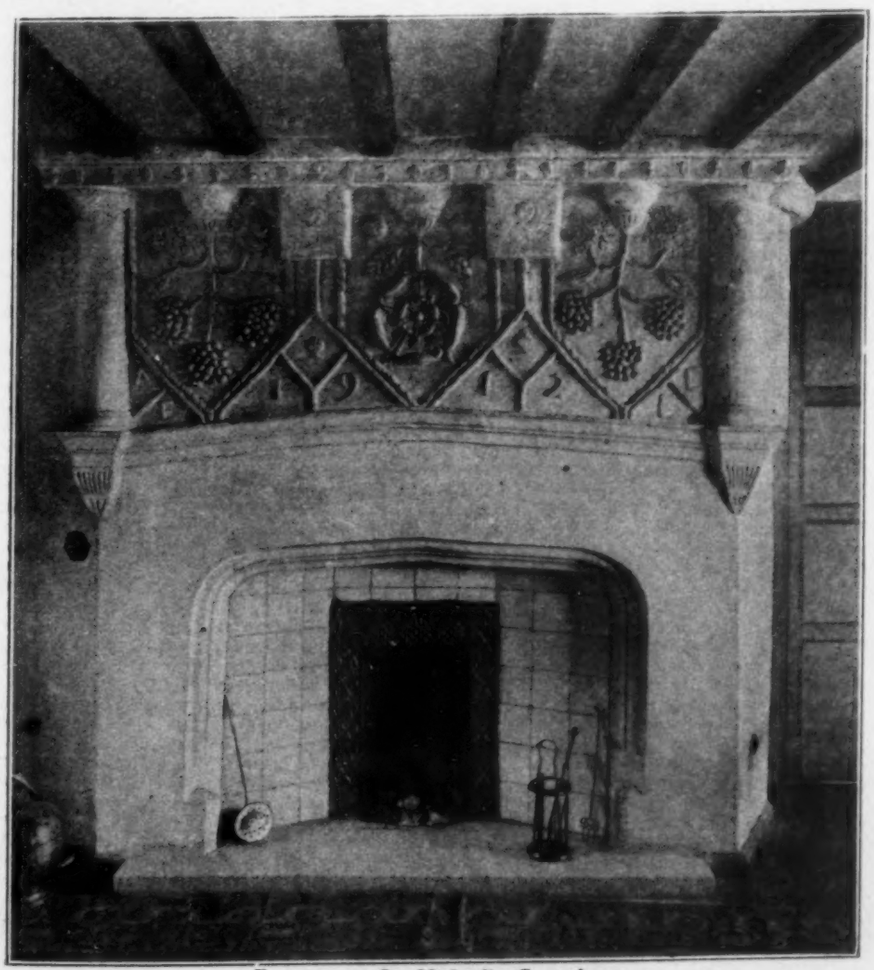


THE RAMASSEUM, HYPOSTYLE HALL (RAMASES II.), THEBES. FROM A DRAWING BY MR. FITZROY H. DARKE.



Octagonal Dining Room at House at Bucklebury Common, Reading.

[This is an octagonal dining-room with oak panelling and a modelled plaster ceiling, executed by Messrs. G. A. Brown & Sons, of Hammersmith, from the designs of the architect, Mr. Baillie-Scott, of Gray's Inn-square, W.C. 1.]



Fireplace at St. Michael's, Canterbury.

[This dining-room fireplace is executed in cement with plaster overmantel, modelled from the architect's designs, by Mr. J. C. Pocock, who acted as clerk of works for the whole building. The grate and surrounding tiles were added later; the interior is also from Mr. Baillie-Scott's design.]

ECONOMICS IN RELATION TO THE PRESENT CRISIS.

THE following is an abstract of the discussion on the paper on "Economics in Relation to the Present Crisis," read before the Society of Architects, by Sir Ambrose Poynter, Bart., F.R.I.B.A. An abstract of the paper appeared in our last issue.

SIR CHARLES T. RUTHEN, O.B.E., F.R.I.B.A., said that the provision of adequate and satisfactory homes for the people was an absolute essential of a happy, peaceful and well-ordered national life, and this essential had never been fulfilled in the past. The deficiency in pre-war days was due to the failure of the supply to meet the demand, and the supply lagged behind the demand simply because those agencies in whose hands rested the provision of houses considered, rightly or wrongly, that the supply of the most needed type of workers' home was not an economic proposition, and the efforts of these building agencies were directed in other and more satisfactory channels. As wages increased, and as hours of labour were reduced, so the cost of building gradually but surely increased; but there had been for many years a "dead set" against the paying of higher rents. It appeared to be obvious that unless rents advanced as the cost of building advanced, as represented by higher wages and reduced hours of working, the time was necessarily bound to arrive when that type of house with rents fixed without a definite and proper relation to the cost of production, would cease to be built.

At the present time there was an unaccountable obstinacy upon the part of the "worker" to pay a price for the product of his labour commensurate with the wages he obtained for the manufacture of this product. When in pre-war days there existed a large section of the community whose wages were too low to enable them to pay an economic rent for a reasonable and proper home, the difference between the economic rents of such houses and the rents possible of payment by the low-waged workers should have been a charge upon the community. In the light of present post-war circumstances, however, the worker should earn sufficient to enable him to pay the proper rent for a proper home.

The real root trouble to-day and the chief cause of the present serious national crisis was restriction of output. To-day architects were getting desperate over the question of building costs. No part of the science of building had received more attention during the past ten years from the members of the profession than that affecting the building of homes for the people. In domestic architecture, British architects were in the front line. Architects had always been blamed for the inferior houses in which the great mass of the people had been and were forced to live; but in reality architects had little to do with these houses. The pre-war house of the worker had no assistance in its construction or design from the architect. Houses were built in thousands "like all other houses," and the architect was engaged only, and not always even then, to prepare a simple plan of a stereotype house. Any attempt upon the part of the architect to obtain a variation of plan or design, more particularly if that variation necessitated the use of a little more land per house, was immediately vetoed.

When the garden city idea and town-planning principles became better known, the architect had his chance and used it to the full. His great trouble was always the fixed cost, or almost fixed cost, per house. At some housing exhibitions held ten years ago, architects from all parts of the country put their very best efforts into the designing of houses, but were criticised even then for the smallness of the rooms and the lack of many little accessories that went so far to make the home comfortable. It seemed in looking over these conditions and examining the plans of the cottages erected that the results obtained for £200 and less were truly wonderful. The cost of common bricks (at works) in pre-war days was, say, 24s. per thousand. To-day, the same bricks cost 84s. per thousand. A superficial yard of 9 in. brickwork in pre-war days cost 7s. 6d., to day it was 26s. Masons received in pre-war days 9d. per hour, now they received 1s. 9d.; labourers had 6d. per hour, and now received 1s. 6d.; joiners 9d. per hour, and now 1s. 9d. Brickwork in the same part of the country where these prices ruled, was executed at the rate of 750 bricks per man per day (average). To-day, the output per man per day did not average more than 250 bricks. For a block of cottages erected in 1885, the cost of labour only (brickwork only), was £700. In 1912, the same amount of work cost for labour only £1,740. Of the total increase in the cost of the labour upon this piece of work, £100 was due to increase in wages and £940 was the national loss due to diminished output. The cost per superficial yard in 1885 for the labour only of 9 in. brickwork was 8½d., the bricklayer being paid 9d. per hour and the labourer 6d. per hour. In 1912, the same labour cost 1s. 9d. per superficial yard: the bricklayer being paid 10d. per hour and the labourer 7d. per hour. In 1920, the same labour (for one superficial yard of 9 in. brickwork) cost 9s. 4d., the bricklayer being paid 1s. 9d. per hour and the labourer 1s. 6d. per hour. In 1920, the cost of a similar block of cottages amounted for brickwork only (labour only) to £9,360. Compared with pre-war costs the increase in the cost of this work as a result of increased wages was £1,543, and the increase in the cost of this work as the result of restricted output was £6,067.

The reason for the great increase in the cost of building was to be found in the fact that there had been a great diminution of output. Upon the face of it, it appeared fairly obvious that a cottage which in pre-war days was built for £200 could not cost £800 and even more, if only increased wages were to be taken into account. There must be and was a much more important explanation for the amazing rise in the cost of the work. Of the difference of £600 between the pre-war and post-war cost of a £200 cottage, at least £200 was accounted for by restriction of output upon the part of those engaged in the various branches of the building industry. If there could be an acceleration to quite a small extent of the pre-war output, he believed the £200 pre-war cottage should not cost more than £500 to-day.

The employer who refused to be educated, who embraced old-fashioned methods, and did not accept new conditions, was limiting output, and doing untold injury to the country. The worker who refused to use new machinery or adopt new methods, or deliberately reduced the quantity or quality of his output, was also injuring his country and bringing untold misery upon the community, and particularly upon his own class. The doctrine that the world could only make use of a limited quantity of manufactured articles and that if this quantity was manufactured in the cheapest and most rapid manner, thousands would quickly be unemployed, had been so assiduously taught in this country during the past few years that the workers had become obsessed with it. The industrial future of this country, and indeed of the world, was irrevocably bound up with the necessity for the removal of the baneful influence of this fallacious doctrine.

Something like 200,000 workers were required to fill the gaps caused by the war in the ranks of the building industry. With a full and unrestricted output the building industry had to-day only 75 per cent. of its pre-war capacity. To erect 200,000 houses per annum, 500,000 men were required, and these men would be required to maintain their full pre-war output. The engagement of such a number upon house building alone would leave less than 200,000 men for all other building work.

It was interesting to note that the Ministry of Health hoped to complete 200,000 houses in one year, and although half this period had passed the total schemes approved represented little more than half that number. National housing, so far as it had suffered as a direct result of the war, deserved a great national grant to help in re-establishing at least its pre-war position.

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MR. PERCY B. TUBBS, F.R.I.B.A., said he was not sure that builders' and contractors' businesses were as well organised as they might be. In many cases, he did not think that the foremen, who had very great functions to performs were as good as they might be. It was often found that the materials were not on the site when they should be; and when that was the case, there was not the same incentive for the men to work as there would be if the materials were delivered at the right time. He was not sure whether sub-contracting by the main contractor was sound policy, and it seemed that the profit which went to sub-contractors might be saved if the contractor's business was better organised.

MR. H. FREYBERG, F.S.I., said he thought that the sole reason for the unemployment in the building trade before the war was the general neglect in the provision of houses. Much building work was wanted then, but nobody saw that it was carried out. He agreed with Mr. Tubbs regarding the management of some building concerns. Many who called themselves builders were simply decorators, and if they had any structural work to do they let it out to sub-contractors. He thought the Government might help to solve the housing question by advancing money to individuals through building societies, for the purpose of providing their own houses.

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MR. E. J. SADGROVE (President) agreed with the individual ownership of houses, but pointed out that a section of the people did not want to own their own houses. There could be no doubt whatever that restriction of output was at the root of the housing shortage, and there would be no improvement until the unions told their members that they could produce as much as they possibly could without the fear of unemployment. There were two ways of looking at the sub-letting of work, and it had to be borne in mind that sub-contractors were generally specialists, and if every builder had to employ a group of specialists in every trade his overhead charges would be enormous.

THE COLLAPSE OF A REINFORCED CONCRETE ROOF AT BIRMINGHAM.

WE have received the following observations from an engineer interested in reinforced concrete :—

On January 23, the reinforced concrete roof of a garage building being erected at Birmingham collapsed during course of construction, with an unfortunate loss of life. A Coroner's inquest was held for the purpose of determining the cause of the accident and to obtain such information as would assist in the prevention of similar accidents in the future.

The extent to which reinforced concrete has been adopted in recent years for all manner of constructions suggests that some practical comments by one who closely followed the evidence may help towards assimilation of the lessons that are to be learned from the facts of the case as brought out in the evidence.

It may be stated at once that the failure was in no way a fault in design. The engineers' designs and calculations were never in question ; it was admitted at once by the independent experts who gave evidence that the designs were more than adequate. Furthermore, the contractors entrusted with the carrying out of the work were a most reputable firm, desirous of producing only the best of results. The foreman in charge was a conscientious hard-working employee, highly spoken of by all who came into contact with him. The following points were brought out in the evidence :—

(1) At the time of the accident the concrete in the roof construction had not properly set.

(2) A considerable portion of the concrete was of a porous nature, giving an insufficiency of adhesion to the reinforcing steel.

(3) According to the specification, the concrete was to be mixed in the proportion of 1 part of cement to 2 parts of sand to 4 parts of aggregate, whereas, in the actual construction, the proportion was altered to 1 part of cement to 1 part of sand to 3 parts of aggregate.

(4) The main and secondary beams were cast independently of the decking slabs they supported.

(5) The vertical stirrup reinforcement of the beams did not run up into the heart of the decking slab, as called for in the engineers' designs.

(6) A long beam in one wall was a continuous series of lintels supported by two columns at the extreme ends with three intermediate supporting brick piers. A note on the designing engineers' drawing called attention to the fact that the brick piers should be built prior to the casting of the lintel beam, as the latter was only designed to carry between piers. In the construction of the work, the piers were not built up to support the lintel beam ; a space of 8 in. or 9 in. was left between the top of the brick piers and the bottom of the lintel beam, as shown in the accompanying sketch.

(7) On removal of the props supporting this lintel, the beam, which was left hanging in the air, sagged down to the piers, with consequent fractures in the beam.

(8) Upon noticing these fractures, the workmen tried to avoid further damage by placing a supporting prop with wedges under the fractured beam. The prop was placed near the end of the beam, a distance of 2 ft. or 3 ft. away from the end column. Whilst inserting this prop and the wedges the entire roof collapsed.

Let us discuss the points enumerated :—

(1) The failure of the concrete properly to set was in all probability due to the inclement weather during which the concrete was poured. There were intermittent periods of frosts and thaws, together with considerable rain. Concrete which has once frozen and remains frozen for a sufficient length of time need not necessarily prove defective, providing proper precautions are taken to let the supporting props remain in position until all signs of frost have disappeared, and until the concrete has set sufficiently hard ; but concrete which has intermittently been subject to frosts and thaws is exceedingly treacherous and should not be trusted. The asphalt was laid on the roof about three weeks after the date of concreting and before the signs of frost became apparent. Asphalt should not be laid until concrete has had sufficient time to aerate properly, and too early application of the asphalt is especially undesirable during the winter season.

(2) The porous nature of the concrete was detrimental to the strength of the construction, as such concrete would not be sufficiently strong in compression, and would not give a sufficient adhesion of concrete to the reinforcing steel. This lack of adhesion would prevent their working in unison in accordance with the theory of reinforced concrete design.

(3) The porous concrete was no doubt due to the alteration of the specified proportions of mixture. This alteration to the specification was undertaken by the workmen without the contractor's knowledge or consent. It was done with the very best of intentions, but with unfortunate consequences. The object of altering the specification was to make a richer mixture by using 33⅓ per cent more cement than was specified in order to assist the setting of the concrete during the inclement weather. The increase in the cement was brought about by altering the mixtures from 1 : 2 : 4 to 1 : 1 : 3, but this alteration resulted in the use of an insufficiency of sand to fill the voids in the aggregate, or, in other words, there was not sufficient mortar properly to bond the crushed aggregate. If it was essential that the quantity of cement should be increased by 33⅓ per cent., the correct manner to produce the desired result would have been to use a proportion of 1½ parts of cement to 2 parts of sand to 4 parts of aggregate. The lesson to be learned from this point is that no specification should be altered, irrespective of the good motives involved, without the consent of the designing engineer. It is conceivable that even too great a quantity of cement can be used in some constructions, for instance, an over-rich mixture can prove detrimental when used in a tank that is expected to be watertight, because an over-rich mixture is liable to crack unduly in the setting of the concrete.

(4) Some foremen carrying out reinforced concrete work adopt the practice of casting beams and slabs separately. There are instances where this can be done with impunity, if proper precautions are taken to ensure the slabs and beams working together, but in such an event the designing engineer should always be consulted. He will be able to show how his specified mode of procedure can be altered. Under no circumstances should a modification be made without his knowledge or consent. Sometimes it is absolutely essential that the slabs and beams be cast simultaneously, because circumstances might prevent the designer's power of obtaining the desired results in any other way.

(5) The failure to carry out the instructions as to building up the brick piers to support the lintel beam prior to the casting of the lintel in question was an unfortunate error of judgment. Even more unfortunate was the placing of a supporting prop and wedges under this lintel beam after it had begun to sag. Had the prop been left out, the beam would have sagged down through the 9 in. space between it and the brick piers with no more detrimental result than a serious cracking of the beam. Total failure would not have taken place. The insertion of the prop some two feet or three feet away from the end of the beam where it rested on the column enabled the remaining portion of the lintel to sag, with a consequent leverage on the supported end, resulting in the disruption of the upper part of the concrete column supporting the end of the beam. In destroying the upper part of this column, the seating of an adjoining beam was broken away. This adjoining beam then slipped off the column with a consequent total and sudden failure of the roof.

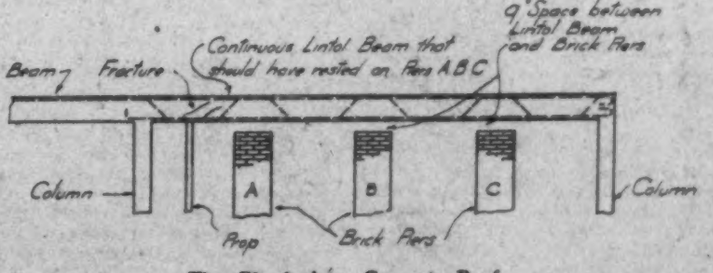
When a beam shows signs of failure, if it happens to be one of a series of continuous beams, the defective beam should not be the first to be propped or supported. The correct method of procedure is to start by propping the continuous portions still standing, because the failure of the one beam will throw on to the adjoining beams stresses for which they were not designed.

In conclusion, it should be pointed out that the circumstances of this accident are peculiarly sad. The foreman in charge was obviously a most likeable man, most highly esteemed by his fellow-workmen, judging from the many compliments paid him during the course of the hearing. Evidently, he had had a considerable amount of work thrown on his shoulders during the latter stages of the construction, and in his desire to give the best that was in him he tried to take upon himself too many duties instead of delegating some of them to other parties. The absence of a clerk of works on the job was commented upon. In every fair-sized construction, a supervisor should be employed to give his whole time to the work from starting to finishing time during every working day of the week. Proper records should be kept as to the sequence of the work, and such records can only be kept by a man who is not called upon to perform a multitude of different functions.

It should not be expected that the reinforced concrete specialist can supervise his constructions any more than in a general way to satisfy himself that the foreman in charge is capable of understanding his designs. If it is desired that the specialist should assume responsibility for the complete supervision of the work, then it is necessary for him to appoint a clerk of works who can devote his entire attention to the job, and this is willingly done by reinforced concrete specialists under specific agreement.

Nor should an architect be called upon to assume responsibility for the complete supervision of the work. According to the rules of engagement of an architect as laid down by the Royal Institute of British Architects, an architect is only required generally to supervise the work in order to see that his designs are being properly interpreted.

As previously stated, the detailed supervision of a construction should be undertaken by a resident inspector or clerk of works. That is the outstanding lesson we may learn from this accident ; doubly regrettable when we consider how easily it might have been prevented.



The Birmingham Concrete Roof.

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On January 23, the reinforced concrete roof of a garage building being erected at Birmingham collapsed during course of construction, with an unfortunate loss of life. A Coroner's inquest was held for the purpose of determining the cause of the accident and to obtain such information as would assist in the prevention of similar accidents in the future.

The extent to which reinforced concrete has been adopted in recent years for all manner of constructions suggests that some practical comments by one who closely followed the evidence may help towards assimilation of the lessons that are to be learned from the facts of the case as brought out in the evidence.

It may be stated at once that the failure was in no way a fault in design. The engineers' designs and calculations were never in question ; it was admitted at once by the independent experts who gave evidence that the designs were more than adequate. Furthermore, the contractors entrusted with the carrying out of the work were a most reputable firm, desirous of producing only the best of results. The foreman in charge was a conscientious hard-working employee, highly spoken of by all who came into contact with him. The following points were brought out in the evidence :—

(1) At the time of the accident the concrete in the roof construction had not properly set.

(2) A considerable portion of the concrete was of a porous nature, giving an insufficiency of adhesion to the reinforcing steel.

(3) According to the specification, the concrete was to be mixed in the proportion of 1 part of cement to 2 parts of sand to 4 parts of aggregate, whereas, in the actual construction, the proportion was altered to 1 part of cement to 1 part of sand to 3 parts of aggregate.

(4) The main and secondary beams were cast independently of the decking slabs they supported.

(5) The vertical stirrup reinforcement of the beams did not run up into the heart of the decking slab, as called for in the engineers' designs.

(6) A long beam in one wall was a continuous series of lintels supported by two columns at the extreme ends with three intermediate supporting brick piers. A note on the designing engineers' drawing called attention to the fact that the brick piers should be built prior to the casting of the lintel beam, as the latter was only designed to carry between piers. In the construction of the work, the piers were not built up to support the lintel beam ; a space of 8 in. or 9 in. was left between the top of the brick piers and the bottom of the lintel beam, as shown in the accompanying sketch.

(7) On removal of the props supporting this lintel, the beam, which was left hanging in the air, sagged down to the piers, with consequent fractures in the beam.

(8) Upon noticing these fractures, the workmen tried to avoid further damage by placing a supporting prop with wedges under the fractured beam. The prop was placed near the end of the beam, a distance of 2 ft. or 3 ft. away from the end column. Whilst inserting this prop and the wedges the entire roof collapsed.

Let us discuss the points enumerated :—

(1) The failure of the concrete properly to set was in all probability due to the inclement weather during which the concrete was poured. There were intermittent periods of frosts and thaws, together with considerable rain. Concrete which has once frozen and remains frozen for a sufficient length of time need not necessarily prove defective, providing proper precautions are taken to let the supporting props remain in position until all signs of frost have disappeared, and until the concrete has set sufficiently hard ; but concrete which has intermittently been subject to frosts and thaws is exceedingly treacherous and should not be trusted. The asphalt was laid on the roof about three weeks after the date of concreting and before the signs of frost became apparent. Asphalt should not be laid until concrete has had sufficient time to aerate properly, and too early application of the asphalt is especially undesirable during the winter season.

(2) The porous nature of the concrete was detrimental to the strength of the construction, as such concrete would not be sufficiently strong in compression, and would not give a sufficient adhesion of concrete to the reinforcing steel. This lack of adhesion would prevent their working in unison in accordance with the theory of reinforced concrete design.

(3) The porous concrete was no doubt due to the alteration of the specified proportions of mixture. This alteration to the specification was undertaken by the workmen without the contractor's knowledge or consent. It was done with the very best of intentions, but with unfortunate consequences. The object of altering the specification was to make a richer mixture by using 33⅓ per cent more cement than was specified in order to assist the setting of the concrete during the inclement weather. The increase in the cement was brought about by altering the mixtures from 1 : 2 : 4 to 1 : 1 : 3, but this alteration resulted in the use of an insufficiency of sand to fill the voids in the aggregate, or, in other words, there was not sufficient mortar properly to bond the crushed aggregate. If it was essential that the quantity of cement should be increased by 33⅓ per cent., the correct manner to produce the desired result would have been to use a proportion of 1½ parts of cement to 2 parts of sand to 4 parts of aggregate. The lesson to be learned from this point is that no specification should be altered, irrespective of the good motives involved, without the consent of the designing engineer. It is conceivable that even too great a quantity of cement can be used in some constructions, for instance, an over-rich mixture can prove detrimental when used in a tank that is expected to be watertight, because an over-rich mixture is liable to crack unduly in the setting of the concrete.

(4) Some foremen carrying out reinforced concrete work adopt the practice of casting beams and slabs separately. There are instances where this can be done with impunity, if proper precautions are taken to ensure the slabs and beams working together, but in such an event the designing engineer should always be consulted. He will be able to show how his specified mode of procedure can be altered. Under no circumstances should a modification be made without his knowledge or consent. Sometimes it is absolutely essential that the slabs and beams be cast simultaneously, because circumstances might prevent the designer's power of obtaining the desired results in any other way.

(5) The failure to carry out the instructions as to building up the brick piers to support the lintel beam prior to the casting of the lintel in question was an unfortunate error of judgment. Even more unfortunate was the placing of a supporting prop and wedges under this lintel beam after it had begun to sag. Had the prop been left out, the beam would have sagged down through the 9 in. space between it and the brick piers with no more detrimental result than a serious cracking of the beam. Total failure would not have taken place. The insertion of the prop some two feet or three feet away from the end of the beam where it rested on the column enabled the remaining portion of the lintel to sag, with a consequent leverage on the supported end, resulting in the disruption of the upper part of the concrete column supporting the end of the beam. In destroying the upper part of this column, the seating of an adjoining beam was broken away. This adjoining beam then slipped off the column with a consequent total and sudden failure of the roof.

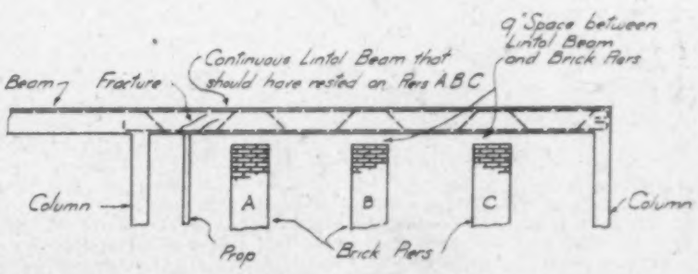
When a beam shows signs of failure, if it happens to be one of a series of continuous beams, the defective beam should not be the first to be propped or supported. The correct method of procedure is to start by propping the continuous portions still standing, because the failure of the one beam will throw on to the adjoining beams stresses for which they were not designed.

In conclusion, it should be pointed out that the circumstances of this accident are peculiarly sad. The foreman in charge was obviously a most likeable man, most highly esteemed by his fellow-workmen, judging from the many compliments paid him during the course of the hearing. Evidently, he had had a considerable amount of work thrown on his shoulders during the latter stages of the construction, and in his desire to give the best that was in him he tried to take upon himself too many duties instead of delegating some of them to other parties. The absence of a clerk of works on the job was commented upon. In every fair-sized construction, a supervisor should be employed to give his whole time to the work from starting to finishing time during every working day of the week. Proper records should be kept as to the sequence of the work, and such records can only be kept by a man who is not called upon to perform a multitude of different functions.

It should not be expected that the reinforced concrete specialist can supervise his constructions any more than in a general way to satisfy himself that the foreman in charge is capable of understanding his designs. If it is desired that the specialist should assume responsibility for the complete supervision of the work, then it is necessary for him to appoint a clerk of works who can devote his entire attention to the job, and this is willingly done by reinforced concrete specialists under specific agreement.

Nor should an architect be called upon to assume responsibility for the complete supervision of the work. According to the rules of engagement of an architect as laid down by the Royal Institute of British Architects, an architect is only required generally to supervise the work in order to see that his designs are being properly interpreted.

As previously stated, the detailed supervision of a construction should be undertaken by a resident inspector or clerk of works. That is the outstanding lesson we may learn from this accident ; doubly regrettable when we consider how easily it might have been prevented.



The Birmingham Concrete Roof.

LEGAL SECTION.

NOTES ON CURRENT CASES.

Action for Breach of Covenant by Assignees.

The case Cole *v.* Kelly, which we noted at length in our Legal Section of December 26, has been carried to the Court of Appeal, and the judgment of the Court below has been reversed. A Miss Hammond was the assignee of a lease of a house in Baker-street for ten and a quarter years, from December 25, 1912. By an indenture of lease dated February 24, 1913, she had demised three floors in the house with the hall and the staircase leading to those floors to the defendant in the action as from December 25, 1912, for five years, and the tenant covenanted to keep the said premises in repair and to deliver them up at the termination of the tenancy in like repair. Miss Hammond died in 1914, but by an agreement contained in certain letters, her administrators had agreed that on the termination of the above term of five years, on December 25, 1917, the defendant should continue to occupy the same portions of the premises on a quarterly tenancy terminable by a quarter's notice on one of the usual quarter days. In July, 1918, the administrators of Miss Hammond had demised to the plaintiff in this action the house comprised in the head lease for the residue of the term of ten and a quarter years, except the last three days, but with the benefit of the lease to the defendant. On September 29, 1918, the defendant gave up possession, and the plaintiff brought this action for breach of covenant to repair. It is not necessary to deal with all the points raised in the case, but only with that on which the Court of Appeal reversed the Judge of first instance.

The Court below had held that as the plaintiff had become entitled to the reversion not by operation of law but by deed she could only sue on the covenant if a statutory right could be shown enabling her to do so, and that section 10 subs. (1) of the Conveyancing Act of 1881 did not apply, because under that subsection the condition or provision which is sought to be enforced must be "contained" in the lease, and here no provision as to repair was contained in the lease under which the defendant held; her agreement consisted of the letters, which contained nothing upon the point. The Court of Appeal, however, held that the terms in the lease as to repair were implied in the new quarterly tenancy, and implied terms which the parties intended should be included in the written agreement were "contained" in it within the meaning of the subsection, and judgment must be entered for the plaintiff.

The case is at present very shortly reported (*Weekly Notes*, Feb. 21) and the reasons for distinguishing a previous decision of the Court of Appeal on which the Court below relied, Blane *v.* Francis (1917 1 K.B. 252), are not set out in full. In that case a tenant of premises under a lease which contained repairing covenants held over at the expiration of the lease as a tenant from year to year upon the terms of the lease; but no other document at all was signed, and it was held that the assignee of the reversion could not sue under the subsection for breaches of covenant to repair contained in the expired lease. The distinction appears to be that in the case now decided there was a written document in existence in which the conditions to be enforced could be implied, whereas in Blane's case, the lease being at an end, there was no existing agreement in writing as to the tenancy.

Yearly Tenancy: Notice to Determine.

A point was raised in the recent case Mayo *v.* Joyce (*Weekly Notes*, Feb. 7) which may seem obvious, but nevertheless was carried on appeal to a Divisional Court.

By an agreement in writing, certain premises were let to the defendant by the plaintiff at a yearly rent of £60 payable on the usual quarter days, but it provided that the tenancy should commence on September 1, 1918, and continue from year to year until determined by three months' notice to quit "which may be given on either side and at any time irrespective of dates fixed hereunder for the payment of rent." The plaintiff gave the defendant a three months' notice to quit on April 29, expiring August 2, 1919; that is to say, he purported to determine the tenancy before the end of the first year. The Divisional Court, affirming the County Court Judge, held that the notice was bad. The tenancy created was for one year certain, and then could be terminated by three months' notice, which might be given "at any time," a provision inserted, as the Court pointed out, to make it clear that the notice need not be one expiring on the anniversaries of the date of commencement of the tenancy, or on one of the days on which rent was payable.

Specific Performance: Sufficiency of Contract.

We have frequently had to call attention to the litigation in which persons involve themselves owing to their entering into contracts for the purchase of real property which may not be formal enough to satisfy the Statute of Frauds. The latest case is Stokes *v.* Whicher (*Weekly Notes*, Feb. 14) in which the plaintiff was the vendor and the defendant the purchaser of certain premises and land, and the plaintiff was claiming specific performance of the contract. The document relied upon by the plaintiff was a carbon copy, signed by the defendant's agent, of the original signed by the plaintiff, in which the purchaser was only described as "I," viz., "I agree to purchase," and it was said there was thus not a sufficient memorandum to satisfy the Statute of Frauds because there was nothing to denote who was intended by "I."

The Court had to consider whether in the document itself or from evidence which was properly admissible or from some other document closely connected with the contract, the person could be indicated so as to satisfy the Statute of Frauds. On three separate grounds the Court held the memorandum to be sufficient:—(1) The memorandum showed that a deposit had been paid and the cheque was produced and might be incorporated with the memorandum. (2) The document was obviously a carbon duplicate of another between the vendor and "I," and it implied that "I" contracted. There was thus reference to a document binding "I." The duplicate was produced and was obviously the original. Verbal evidence showed that, but apart from that, it was admissible to inquire what the transaction was and thus to bring in the second document which was signed by the plaintiff. (3) The memorandum was complete except that it did not show the purchaser's name, but it was not necessary that it should contain it as all that was necessary was that the purchaser should be identified or be capable of indentification. It showed that "I" had undertaken to discharge the obligation of paying £50 deposit, and it was proved that the plaintiff had paid that sum, so it might be taken that the plaintiff had undertaken that obligation. A decree for specific performance was therefore made.

Increase of Rent: Rates and Rent.

The case of Isaacs *v.* Titlebaum raised an important point where the landlord pays the rates. The plaintiff was the landlord of certain premises which he had let to the defendant in January, 1914, at a weekly rent of £1 9s., the landlord paying the rates. In October, 1919, the plaintiff gave the defendant notice to quit on November 4, and on November 8 the plaintiff instituted these proceedings to obtain possession of the premises. The defendant relied upon the Increase of Rent Acts, and the simple point was whether in computing the rent under those Acts the amount paid by the landlord for rates must be deducted from the sum paid as rent by the defendant. That sum was £75 8s., viz., £1 9s. a week, and that would bring the rent above the limit of £70 and thus bring the premises outside the Acts. But the defendant contended that the rent was really £55 and the rates £20 8s., and that thus the Acts applied.

The Court held that the Acts treated as "rent" the whole sum paid by the tenant and not merely the balance after deducting any sum paid as rates, and that, therefore, in this case the premises were outside the Acts. This was really an appeal from the decision in the case Westminster and General Properties and Investment Co. *v.* Simmons (*Builder*, Aug. 15, 1919), in which the Court below had come to the same conclusion as that now arrived at by the Court of Appeal.

Increase of Rent: Sub-Tenants.

The case of Cottell *v.* Baker and Others is rather difficult to follow. The plaintiff was the owner of premises in Shepherd-street, Mayfair. The premises were let to the defendant at a yearly rent of £100 for three years from September, 1914, and the period had been extended to September 29, 1919. Part of the premises were occupied by the defendant as a hair dresser's shop, but the defendant had let off parts of the premises to persons of the poorer classes at weekly rentals, the total of which reached £80 a year. Under the agreement with the plaintiff, the defendant was under covenant not to underlet or assign the premises without leave in writing, which leave had never been obtained. The plaintiff had sold the premises, and in this action was applying for possession.

The Court held that as regards the shop and such parts of the premises as were occupied with it there must be an order for possession as it was not within the Acts, but as regards the sub-tenants the Court held that they were "tenants" within section 2, sub. (1) (d) of the Principal Act, which includes "any person from time to time deriving title under the original landlord or tenant," and that they could not be treated as trespassers because in Wilson *v.* Rosenthal (1916, 22 T.L.R. 233) it had been held that a covenant not to underlet without consent did not apply to an underletting of part of the premises, and that as tenants, under section 1 subs. (1) (c) of the Increase of Rent Amendment Act, December, 1919, it must be shown that there was alternative accommodation available for them, and there was no evidence of this.

The case is very shortly reported and it is difficult to follow the decision. The rent of the whole premises was £100, which would exceed the limit of rent brought within the Acts; so it must be presumed that that portion used as a shop was excluded to bring the case within the Acts. The defendant received in rent from the various sub-tenants £80 a year, but the Court did not consider whether he was making an unreasonable profit by taking in lodgers under section 1, subs. (1) (b) of the Act of December, 1919, and on this point the report states: "If the defendant Baker had been entitled to the protection of the Acts an order might have been made against him, which would operate against the sub-tenants also if by sub-letting to them he was making unreasonable profits in respect of the rent. Although he obtained the shop rent-free after allowing for the rents he received, there were the rates and taxes, which were very high." Thus, although the defendant was outside the Acts, relief was given to sub-tenants separately, brought by him upon the premises.

When this case is compared with the decision as regards converted flats, Woodward *v.* Samuels, which we recently commented upon, and where the rent of the original building had

to be apportioned between the new flats, it shows how impossible the position of landlords has been made by this one-sided and most complicated legislation.

Landlords' Property Tax.

We may draw attention to the case, Hill and Others *v.* Kirchenstein and Others (*Times*, March 4) because it raises a very important point to those who, in paying rent, have the right to deduct the landlords' property tax. It was contended that section 211, subs. (2) of the Income Tax Act, 1918, enabled the amount of the landlords' property tax for previous years to be deducted, but Mr. Justice Darling held that the law still is that the person paying the property tax must deduct it from the next payment of rent, and has no right to deduct it subsequently. The section relied upon as altering the law appears only to apply to the particular year in which a new Act has come into force imposing new taxation, and this taxation has not been charged or deducted in that year.

It is important to observe that the deduction of property tax must be made from the next payment of rent, because certain agents are in their demand notes for rent now apportioning the property tax over the year, deducting half in January and the other half in June. This practice appears to be illegal, and should not be assented to by those entitled to make the deduction.

Workmen's Compensation.

It may be well briefly to refer to a decision of the House of Lords in the case McAlinden *v.* James Nimmo & Co. (1920, A.C. 39). It has long been decided that a review of weekly payments cannot be applied for if the circumstances are unchanged since the award was made. In this case, a man had had three fingers of his right hand amputated, and was in receipt of weekly payments of 10s. 3d. No physical change had occurred in his condition in the two months that had elapsed since this sum was awarded, but the man had, after repeated applications, failed to obtain work within his capacity in the district in which he had been employed The House of Lords held that if it can be proved that the injury has more effect on his chances in the labour market than was anticipated, that may be a change in the circumstances entitling the applicant to a review.

The observations which concluded our note on King *v.* Port of London Authority (Legal Section, Feb. 27) apply equally to this case.

The Continuation of the Rent Acts.

On March 18, the Minister of Health informed the House of Commons that the Committee appointed to inquire into the Rent Restriction Acts, although its inquiry was not completed, had intimated that the legislation should not be allowed to lapse when the present Acts expire, but that, subject to "considerable amendments," the operation of the present Acts should be continued for a "substantial period," and that the Government was prepared to accept this view. It is, of course, obvious that something must be done for, as we pointed out in our article of January 30, although the Act of April, 1919, prolonged the operation of the Principal Act to Lady Day, 1921, the Act of last December, which repealed most important provisions in the Principal Act and in the Act of April, 1919, for some inscrutable reason, was only to continue in force until July 1 of this year, so that after that date the legislation would continue in a mutilated condition for another nine months. A good deal will depend upon the "considerable amendments" proposed by the Committee; at present the legislation is in hopeless confusion and operates most unfairly to landlords and is detrimental to housing.

We have always deprecated legislating in favour of one particular class, and, although some protection during the war may have been necessary in favour of small weekly tenants, the extension of the Acts to houses of high value held on lease has operated most unfairly and increased the difficulties of all but sitting tenants.

Rents have all but been kept at pre-war level by legislation, while everything else has been raised in price. The rise in prices has been gradual, and people have become accustomed to a gradual rise in the price of all the necessaries of life, from a postage stamp upwards. The effect of the legislation as to rents has been to leave a limited class enjoying conditions which are artificial and uneconomic, and this class is now faced with a steep gradient in prices which, if taken at a jump, seems unfair. House property cannot be maintained at pre-war rents; new houses are outside the legislation as it is, and at some time economic conditions in rent will have to be faced and the rents of existing houses will have to be raised.

In our opinion, if the protective legislation is to be continued at all it should take the form of bridging over the gulf between artificial rents and real rents, that is to say, increases of rent should be allowed at fixed intervals from the present time, thus forming a step ladder up the incline of prices so that the whole difference between economic rent and legislative rent may not have to be met by the protected classes in one sudden rise.

LAW REPORT.

Architect's Fees.

IN the Shoreditch County Court, before Judge Cluer, Messrs. F. J. Eadle & Mayer, architects, of 8, Railway-approach, London Bridge, sued Mr. Lewis Jacobs, of 206, High-street, Stoke Newington, to recover £13 7s. for professional services rendered, in taking notes, preparing a specification of work, and arranging with the builders for it to be carried out, as well as for alterations to a shop. The total for the work was £267, on which they were charging 5 per cent.

Mr. S. H. Mayer, of the plaintiff firm, said they had to inform the landlord as to the dilapidations of the defendant's premises with a view to the preparation of a new lease, which they did, and charged the landlord £5 5s., which was paid. Witness was instructed to obtain estimates from two builders for the work, and also for alterations to the shop. This he did and the estimates of Messrs. E. A. Beer & Co. were accepted. The work was carried out, and witness from time to time went to see that it was satisfactory. The proper charge for the work would be 8 per cent., but they had only charged 5 per cent. Judge Cluer: The defence seems to be that the landlord is the one to pay the charges. All he asked you to do was to go over the premises and get the builders to quote. Witness: We superintended the work as it went on, and passed the builders' accounts for payment. Witness agreed that the defendant did not actually give him instructions as to this, but one thing followed the other automatically; when the estimate they obtained was passed they saw to the carrying out of the work. The contract signed by the defendant with Messrs Beer was that the work was to be carried out under the superintendence and direction of the plaintiffs, and to their entire satisfaction. The £5 5s. paid by the landlord had nothing to do with the work done by the plaintiffs, although witness admitted that all they did was to elaborate for the builders the notes they took from the landlord. Mr. Lamb (for the defence): And it is now sought to make us pay for work obviously done for the landlord. Witness: No, the landlord only got a letter, but the builders had to have a full and elaborate specification on which to estimate.

Judge Cluer reduced the fee by one guinea, and found for the plaintiffs for £12 6s. and costs.

A Suffolk Cenotaph.

A cenotaph, designed by Mr. William A. Pite, to the members of the Suffolk Regiment who fell in the war, has been unveiled at St. Mary's Church, Bury St. Edmunds. The structure, which is of white alabaster, is six feet long by three feet wide, and is mounted on a moulded plinth on a wide step of purple Ashburton marble. Upon the sides of the monument are sculptured angel figures, the work of Mr. Whiffen.

COMPETITION NEWS.

West Hartlepool Competition.

At the last meeting of the West Hartlepool War Memorial Committee, the Designs Committee reported that the assessor had made his selection of five designs from those submitted in the preliminary competition for the memorial to be erected in Victory-square, and that the names corresponding to this selection were being forwarded to the assessor for his approval. This approval has since been received, and the names are as follows:—

Mr. George J. Coombs, A.R.C.A. (Lond.), Department of Architecture, Leeds School of Art, and 84, Albion-street, Leeds.

Mr. John W. English, Villa Nanon, Ponteland, Newcastle-on-Tyne.

Mr. Hubert Gregory, Ben Rhydding, Leeds.

Messrs. Hays & Gray, AA.R.I.B.A., Wingate. Co. Durham, and North Shields.

Mr. E. W. Doyle Jones, R.B.S., 2, Wentworth Studios, Chelsea, S.W.3, and 2, York-road, West Hartlepool.

Each of these will, upon competing in the second competition, receive a premium of £50, which, in the case of the architect entrusted with the work, will merge in his fees.

Peterborough.

The President of the R.I.B.A. has appointed Mr. Edwin T. Hall as assessor in the Peterborough and District War Memorial Competition.

Sidcup.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a war memorial to cost about £800. Sending-in day May 7. (See our advertisement pages to-day.)

Sheffield.

FOR THE CITY COUNCIL.—Designs for war memorial halls. Sending-in day, July 31. (See our issue of March 5.)

Hornsey.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a war memorial. Sending-in day April 20. (See our issue for March 5.) The R.I.B.A. and the Society of Architects advise their members to take no part in the competition until conditions are revised.

Bradford-on-Avon (Wilts.).

FOR THE WAR MEMORIAL COMMITTEE.—Design for a war memorial. Premium 25 guineas. Sending-in day, May 8. (See our issue for March 5.)

Batley.

Members of the Royal Institute of British Architects, and the Society of Architects are requested to take no part in the Ward's Hill (Batley) Improvement Competition without first ascertaining from those bodies that the conditions have been approved.

Lockerbie and Chichester.

Members of the Society of Architects are requested not to take any part in the Lockerbie and Chichester War Memorial Competitions without ascertaining from the Society that the conditions have been approved.

ARCHITECTURAL ASSOCIATION OF IRELAND.

Cottage Construction.

MR. GEORGE BECKETT, F.R.I.A.I. (President), presided at a meeting of the Architectural Association of Ireland, on March 9, in Dublin, when a lecture, entitled "A Method of Cottage Construction in Reinforced Concrete," was delivered by MAJOR J. H. WALLER, D.S.O., who has invented a system of pre-cast concrete slab construction. The lecture was illustrated with slides showing constructional details and exterior and interior views of houses already erected on this system. At the conclusion, a vote of thanks to the lecturer was proposed by Mr. R. Caulfeld Orpen, R.H.A., and seconded by Mr. George O'Connor, F.R.I.A.I.

PROPOSED NATIONAL BUILDING CODE.—V.

[Permission has been granted to the *Builder* by the National Federation of Building Trades' Employers to reprint the proposed National Building Code (which that body approved at a general meeting recently held in London) above the notes of a legal contributor. The first article appeared in our issue of February 13, the second on February 27, the third on March 12 and the fourth on March 19. These articles will be continued until the whole Code has been carefully considered. The various clauses of the Code itself will be inset in the columns and quoted, followed by the comments of our contributor, whose views, we would emphasise, are not necessarily our own.]

SCHEDULE OF CONDITIONS—(*Continued*).

Clause 13.

"The Contractor will during the progress and until completion of the Works save harmless and keep indemnified the Employer in respect of all claims which may be made under the Fatal Accidents Act, 1846, the Employers' Liability Act, 1880, the Workmen's Compensation Act, 1906, or any statutory modification of either of those Acts or at Common Law for or in respect of any damages or compensation payable in consequence of any accident or injury (arising out of the execution of the Works) sustained by any workman or other person whether in the employment of the Contractor or not, but provided always that such indemnity shall not include any case of injury arising through the negligence or wilful default of the Employer or the Architect or their servants or of any other person or persons sent on to the Works by the Employer or the Architect or going on to the Works on his or their behalf and in such case the Employer will indemnify the Contractor against any claims under the beforementioned Acts or at Common Law and against all costs, charges and expenses relative thereto."

A prudent contractor will insure against accidents to his workmen for which he may be liable to pay compensation under the Workmen's Compensation Acts, and will thus cover the possibility of his being called on to indemnify the employer under this section. It is curious that whereas Clause 4 mentions workmen's compensation insurance as being one of the items which must be included in the bill of quantities "so far as they may be required in connection with this Contract," no specific provision in the General Conditions calls upon the contractor to insure. Though insurance in such cases is practically universal, the contract could, of course, be quite properly carried out without such insurance, and consequently if the architect were to omit the item from the bill of quantities, the contractor would, if he did insure, hardly be able to substantiate a claim to be repaid his premiums, plus 10 per cent., in accordance with Clause 4, as the item cannot properly be said to be "necessary for the due performance and completion of the Contract."

Clause 14.

"The Contractor will during the progress and until completion of the Works save harmless and keep indemnified the Employer (but subject to the provisions of Clause 21 and elsewhere) in respect of all damage occasioned by the carrying out of the Works to adjoining property except and provided that the Contractor shall not be liable for any such damage so long as the Works have been carried out in reasonable compliance with the Bills of Quantities and other provisions of the Contract."

This Clause gives a conditional indemnity to the employer in respect of damage to adjoining property occasioned by the carrying out of the works, but it is difficult to understand why such indemnity should be given "subject to the provision of Clause 21 and elsewhere," since the conditions under which the indemnity is not to be operative are quite clearly (more clearly, in fact, than in Clause 21) set out in Clause 14 itself. The intention of the Federation appears to be that the employer shall be saved harmless up to the completion of the works from the results of damage to adjoining property, if such damage has arisen through the negligence or wilful default of the contractor, but that the contractor shall not be responsible for such damage if it has been occasioned by a cause attributable to the lack of foresight or to the negligence of the architect or employer, *e.g.*, defective design, failure to order underpinning, &c. Such intention will have the cordial support of reasonable men, but the Clause as worded goes a great deal further than the limits indicated above, and perhaps it is not quite clearly appreciated on first reading how far the Clause does go. After careful examination, however, it appears that the indemnity only lasts until the completion of the works, and that any damage occurring thereafter, although due to defective work, will be upon the employer. The main objection, however, to the Clause, from the employer's point of view, is the proviso which saves the contractor from liability so long as the works have been carried out "in reasonable compliance with the Bills of Quantities and other provisions of the Contract." The contractor can quite well comply reasonably with these conditions and at the same time be negligent in the way he carries out the work. Suppose, for example, a workman of the contractor, in removing a ladder from the wall of the building under construction, let it fall against the wall of an adjoining building and breaks a window. There has been in this case no departure from the bill of quantities or conditions of the contract, but there has been negligence on the part of the contractor's workman, and, save such limitations as are explained hereafter, the Clause removes the responsibility from the contractor to the employer. The word "reasonable" used in this connection is by no means free from objection. Certain specific conditions are set forth on which the work is to be carried out, and either there is compliance with such conditions, or there is not. The expression "reasonable compliance" imports the existence of a kind of compliance which is and which is not, and is therefore a loose phrase to use in a document which purports to be so explicit.

The Clause must be considered in yet another aspect. It will be observed that the Clause purports to free the contractor from liability in certain cases, but it must be remembered that at common law the contractor cannot contract out of his liabilities for his own and his servants' negligence or other torts. The relation of master and servant does not exist between an employer and an independent contractor so as to make the former responsible for these wrongful acts, except in the following circumstances:—

(1).—Where the employer interferes in the execution of the work.

(2).—Where there is a statutory obligation on the employer to do the work which he employs the contractor to do.

(3).—Where the work contracted to be done is unlawful.

(4).—Where the work, though lawful in itself, is in its nature dangerous and likely to cause injury unless special precautions are taken.

(5).—Where Section 4 of the Workmen's Compensation Act, 1906, applies.

(6).—Where the case is within Section 23 of the Highways and Locomotives Amendment Act, 1878, as amended by Section 12 of the Locomotive Act, 1888.

Therefore, it appears that, in order that the contractor may reap the full benefit of the provisions of Clause 14, it will be necessary for the employer under it to indemnify the contractor against such Acts.

Clause 15.

"(*a*) Immediately upon signing the Contract or at any later date specifically set out in the Bills of Quantities the Contracto shall insure the Works against loss or damage by fire and air-craft in the joint names of the Employer and Contractor for the full value of the Contract, and shall deposit with the Architect the policy therefor and he shall so keep them insured until the completion of the Works, or as to any section thereof until its delivery to or beneficial occupation by the Employer. In the event of any fire occurring, all moneys received under any such policy shall be expended in the rebuilding, re-instatement, or reparation of the Works destroyed or injured in accordance with the terms of this Contract according to the best estimate to be forwarded to the Insurance Company that can then be made by the Quantity Surveyor and the Contractor and as soon as the claim under the policy is settled the Contractor shall proceed immediately with the rebuilding, re-instatement, or reparation, and such additional time as is necessary and reasonable for the proper completion of the Works shall be duly allowed. Provided that the Contractor shall not be responsible for any risk to or damage by fire occurring to any building or structure not included in this Contract nor shall he be responsible for the fire insurance of any such building and provided that any loss or damage by fire to the Works is at the sole risk of the Employer from the time of such completion or occupation as beforementioned.

"(*b*) The Contractor shall further provide for the fire insurance of any machinery, plant and tackle which he may bring on to the Works for the purpose of their execution."

As the duty to insure against fire and aircraft is a definite provision of the contract, the conditions of Clause 4 (*a*) will operate to the contractor's benefit in this respect, *i.e.*, if fire and aircraft insurance fully described are omitted from the bill of quantities he will be entitled to charge the employer with the premiums, plus 10 per cent. There appears to be no provision in the Clause to provide for the employer paying the premium and deducting the same from the certificates, should the contractor fail to insure. The insurances under Sub-Clause (*b*) are also referred to in Clause 4 (*a*).

Clause 16.

"The Contractor shall when authorised either by the Employer or his Architect or his representative who shall be deemed to have acted on the Employers' behalf or under any circumstance covered by Clause 6 vary by way of extra to omission from or substitution for any items shewn on the Contract Drawings or in the Bills of Quantities but subject to all the provisions contained herein.

"No variation shall vitiate the Contract, and the authorisation of any variation shall be sufficiently proved by any drawing or detail, written instruction or explanation issued by the Architect or Contractor or by any writing of the Employer or the Architect or his representative but the Contractor shall make no variation without such authority.

"Provided that if the Employer or the Architect or his representative verbally authorise any variation to the Contractor or his foreman (whether on or about the Works or elsewhere) such instruction or authorisation shall be confirmed in writing to the Contractor within three days or shall be deemed to be sufficiently proved if the Contractor shall have acknowledged the same in writing to the Architect within six days of such verbal authorisation.

"Any and all such variations are hereinafter referred to and shall be dealt with and allowed as authorised variations."

The words "subject to all provisions contained herein," evidently refer to Clauses 25, 31, and 32, which will be considered hereafter, while the circumstances covered by Clause 6, for which the contractor requires no authorisation for the variation of works, have already been dealt with under that Clause. In regard to the second and third paragraphs, it is observed that the Federation is making provision for the authorisation of extra works to be done, otherwise than by written order of the architect. This is a matter upon which the case of Brodie *v.* Cardiff Corporation (1919) A.C. 337 is very much in point. In that case, the Cardiff Corporation sought to set aside the decisions of an independent arbitrator, on the ground that certain work which had in fact been done, and which the arbitrator had decided was extra to the contract work, was not to be paid for because the engineer had not ordered the work in writing. It was a defence which was not accepted by the House of Lords, but at the same time it illustrates the serious position of a contractor when the employer under the contract takes advantage of the failure by him to comply with some mere formality, even to the extent of refusing payment for work which has been done on the instructions of the employer's professional adviser. At the same time, the words in para. 2, "by any writing of the employer, or the architect, or his representative," is a very loose phrase, and must surely mean writing which purports to authorise the construction of the extra work. It will also be observed that in the third paragraph there is no provision for the repudiation by the architect of the alleged verbal authorisation in regard to which the contractor gives him notice within six days, and it should be made clear that if the statement of the contractor is not in accordance with the recollection of the architect, he may repudiate it.

Clause 17.

"All materials and workmanship shall subject to provisions of Clause 3 be of the respective kinds described in the Bills of Quantities and the Contractor shall upon the request of the architect furnish him with vouchers to prove that the materials are such as are specified in the Bills of Quantities.

"Should the architect, however, consider that in addition to or in substitution for the vouchers herein mentioned, any reasonable test or tests of any particular material or class of material be necessary, the contractor shall arrange for or carry out such tests as instructed, but the cost of any such test or tests shall be added to the contract as an authorized extra under Clause 32, unless it has been provided for in the Bills of Quantities by way of a provisional amount, provided that if any material so tested fails to comply with any reasonable test set out in the Bills of Quantities, the cost of such test or tests shall be borne by the Contractor."

The first sentence, with the exception of the words "subject to provisions of Clause 3" and the substitution of the words bills of quantities for specification, is the same as Clause 7 of the R.I.B.A. form. The second sentence is clearly reasonable, and it should be noted that under this Clause, read in conjunction with Regulation 2 (*b*), unless tests are provided for in the bills of quantities, and unless the same are reasonable, the contractor will under no circumstances be responsible for either the cost of the tests or the failure of the material to answer the tests thought necessary by the architect.

Clause 18.

"When the contractor has received payment of any certificate in which the architect has taken into account the value of any unfixed materials intended for the works and placed by the contractor on the site or upon ground adjacent thereto, such materials shall become the property of the employer and shall not be taken away except for the purpose of being used for the works, without the written authority of the architect, and the contractor shall be liable for any loss of or damage to such materials."

This Clause is practically the same as Clause 15 of the R.I.B.A. form, and after its operation the material becomes vested in the employer so as to avoid, subject to the doctrine of "reputed ownership," the trustee in bankruptcy of the contractor. The words in the R.I.B.A. form which have been omitted in the code, viz., "shall have stated that he" between "architect" and "has taken into account" are important, as fixing a more definite and more easily provable act upon which the change of property takes place, and it appears unfortunate that they have been discarded.

Clause 19.

"The architect shall, during the progress of the works, inspect any material brought on to the ground for the works before it is fixed and within a reasonable period after its arrival, and he shall inspect the workmanship from time to time at reasonable intervals sufficiently often to cause no unnecessary delay to the progress of the works.

"If the architect is of opinion that any such materials are not in accordance with the descriptions set out in the bills of quantities therefor, or that the workmanship is not in accordance with the descriptions in the Bills of Quantities or the provisions of this Contract, he shall forthwith give notice in writing to the Contractor specifying such materials or workmanship and stating the grounds of his objection thereto, and the Contractor shall within seven days of the receipt of such notice give notice in writing to the Architect stating which of the items contained in the notice of the Architect he disputes, and which he admits his liability to comply with. If the Contractor by such notice admits his liability to comply with such items or any of them he shall at his own cost and within a reasonable time remove or make good the materials or workmanship comprised in such admitted items in accordance with the provisions of this Contract. If the Contractor shall fail within the before-mentioned time to give notice to the Architect that he disputes his liability to make good any items complained of by the Architect he shall be taken to admit his liability and shall accordingly at his own cost forthwith or within such reasonable time as aforesaid, make good in accordance with such provisions, the materials or work in respect of which he, the Contractor, has failed to give such notice as aforesaid. If default be made by the Contractor in making good such materials or workmanship, the Employer shall have the power to employ and pay other persons to carry out the same, and all other expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer or may be deducted by the Employer from any moneys due or that may become due to the Contractor." See note to Clause 21.

Clause 20.

"The Contractor shall at the request of the Architect open up for inspection any work covered up and should the Contractor refuse or wilfully neglect to comply with such request, the Architect may employ other workmen to open up such work. If such work has been covered up in contravention of the Architect's instructions, or if on being opened up it be found not in accordance with the Contract and/or the Contractor's instructions as set out in Clause 3 (*b*) hereof and elsewhere, the expenses of opening up and covering again shall be borne by and recoverable from the Contractor or may be deducted as aforesaid. If the work has not been covered up in contravention of such instructions or is found in accordance with the Contract, and/or the Contractor's instructions as aforesaid, then the expenses aforesaid shall be borne by the Employer and be added to the Contract sum and paid accordingly, provided always that in the case of foundations or of any other urgent work so opened up and requiring immediate attention, the Architect shall within reasonable time after receipt of notice from the Contractor that the work has been opened, make or cause the inspection thereof to be made and at the expiration of such time, if such inspection shall not have been made, the Contractor may cover up the work and shall not be required to open it again for inspection except at the expense of the Employer." See note to Clause 21.

Clause 21.

"Any excessive shrinkage arising from natural causes or any defects arising from material or workmanship not in accordance with the Contract and/or the Contractor's instructions as set out in Clause 3 (*b*) hereof and elsewhere which are notified by the Architect to the Contractor in writing within three months from the completion of the Works, shall be amended and made good by the Contractor at his own cost unless the Architect shall decide that he ought to be paid for the same. And in case of wilful default by the Contractor so to amend, the Employer may so amend (by himself or by others engaged by him), at the expense of the Contractor, and the cost of such amendment shall be recoverable from the Contractor by the Employer, or may be deducted by the Employer from any moneys due or which may become due to the Contractor. Provided—

"(*a*) If the Works have been carried out as set out above, the Contractor shall not be responsible for any defects occurring in the Works or damage arising from or consequent thereon, nor shall the Contractor be responsible for any damage to any property to whomsoever belonging, arising out of or consequent on the execution of the Works, and for the purposes of this sub-clause any plans, designs or schemes from which any Approved Sub-contractor has executed or is executing any portion of the Works, shall be deemed to be instructions from the Architect to the Contractor.

"(*b*) If proper and sufficient grates and other appliances be not installed at the times necessary for the completion of the Works, then (unless the absence of such appliances is due to the Contractor's wilful default) the Contractor shall not be responsible for any defects or damage arising from or consequent on any lack of heating in any structure being part of the Works.

"(*c*) The Contractor shall not in any case be responsible for any defects or damage caused by overheating or lack of heating unless the management of the means of heating has been in the Contractor's own charge."

In Clause 19, while there is every provision made for dealing with the removal of material which the contractor admits his liability to remove, as contrary to the description set out in the bill of quantities, there is no provision at all made for dealing with the matter should he dispute his liability. It is presumed that the matter would be referred to arbitration; but if so, when and under what conditions? Under Clauses 20 and 21, there are three examples of the use of the words, "Contractor's instructions," intended to mean instructions to the contractor, whereas the use of the apostrophe "*s*" suggests instructions *of* the contractor. In Clause 21, there is a suggestion, which is obviously absurd, that the employer may amend *by himself* work which the contractor fails to amend. Clause 21 (*a*) moreover is entirely ambiguous. The words, "if the works have been carried out as set out above," appear to have no reference at all to anything in particular; while the subject-matter of the Sub-clause appears to have been fully dealt with under Clause 14 above. There is one comment which must be made on Clause 21 (*b*) arising out of the use of the words, "wilful default." Wilful default, after all, excludes negligence or lack of diligence, and it is hardly likely that the Federation would intend the contractor to be freed from responsibilities caused by either the one or the other.

(*To be continued.*)

STANDARD] SPECIFICATION FOR COTTAGES OF TIMBER CONSTRUCTION.

(*Concluded from page* 339.)

Tiler.

51 *Tiles.*—When covered with plain tiles, roofs must have a pitch of 45 degs. Bridgwater or pantiles may have a pitch of not less than 35 degs. The tiles are to be hard, well and evenly burnt sand-faced tiles of an approved make and colour, made with nibs and laid to a 4 in. gauge, but not less than a 2 in. lap throughout. The tiles are to be laid on 1½ in. by 1 in. sawn battens, and every fifth course is to be nailed with two 2 in. stout composition nails to each tile. The two courses next to all eaves, gables, hips and ridges are to be nailed each course Where no fascia or soffit boards are provided, the tiles are to be nailed to 1 in. rough boarding between the eaves and wallplate. All tiling may be pointed or torched on the underside in the manner customary in the district.

52. *Verges.*—The verges are to be formed with tile and a-half tiles, with a tile undercloak pointed in cement, exposing the ends of the tiles.

53. *Eaves.*—Put a double course of tiles at all eaves, bedded in cement mortar.

54. *Ridges.*—Cover the ridges with half-round or other approved section ridge tiles bedded down solidly in hair mortar and pointed in cement mortar, and gradually tilt them up towards the gable ends. Fill in open ends with plain tiles in cement.

55. *Hips and Valleys.*—The hips and valleys are to be formed with proper hip and valley tiles coursed and bonded with the ordinary tiling and nailed at every course. The hip tiles are to be bedded in hair mortar and pointed in cement mortar.

56. *Soakers.*—Fix the lead soakers provided by the Plumber.

57. *General.*—Make good all damage done to the tiling, and at completion leave all roofs sound and watertight and clean out eaves gutters and downpipes. N.B.—Bridgwater, Roman or pantiles may be used where customary, and the specification varied accordingly.

Slater.

58. *Slates.*—Slates should not be used for roofs with a pitch of less than 30 deg. The slating is to be of outside sizes of good quality Welsh or local slates free from defects, laid with a lap of not less than 3 in. throughout, each slate being fixed with two 2 in. stout composition nails to 2 in. by 1 in. battens. Where no fascia or soffit boards are provided, the slates are to be nailed to 1 in. rough boarding between the eaves and wall plate.

59. *Artificial Slating.*—Approved forms of artificial slating may be used and the specification amended accordingly. All slating may be pointed or torched on the underside in the manner customary in the district.

60. *Verges.*—Trim and point the verges in cement and fix an extra course of slates under verges.

61. *Eaves.*—Put a double course of slates at all eaves, bedded in cement mortar.

62. *Ridges and Hips.*—Cover the ridges and hips with half-round or other approved section blue tiles bedded down solidly in hair mortar and pointed in cement mortar. Fill in open ends with plain tiles in cement.

63. *Soakers.*—Fix the lead soakers provided by the Plumber.

64. *General.*—Make good all damage done to the slating, and at completion leave all roofs sound and watertight and clean out eaves gutters and downpipes.

Carpenter and Joiner.

65. *Thicknesses.*—The thicknesses of all joinery specified are before planing, and 1/16 in will be allowed for each wrought face from all specified thicknesses.

66. *Storing and Painting Joinery.*—All joinery immediately after delivery at the site is to be stored and protected from the weather. The floor boards are to be stacked on the site face downwards within a month of commencement of the work, and to be protected from the weather at least one month before use. All joinery specified to be painted is to be knotted and primed before leaving the joiner's shop. The bottom edges of all doors are to be primed and painted one coat just previous to hanging.

67. *Materials for Carcassing.*—The timber used is to be sound redwood or whitewood of suitable building quality, and not inferior to good fourth Swedish classification; or equal quality in Finnish or Russian production, spruce, red pine, pitch pine, Oregon pine or British Columbia pine. All to be reasonably seasoned. Wrack and dead wood will not be permitted.

68. *Home-grown Timber for Carcassing.*—Oak, chestnut, larch, spruce, or Scotch fir may be used for carcassing, if of an approved quality and growth and felled during the winter months. All to be reasonably seasoned. Wrack and dead wood will not be permitted. The scantlings are to be similar to those specified for imported timber, except in the case of oak and chestnut, when the scantlings can be reduced 1 in. in depth. Oak or chestnut beams may be used to support the first-floor joists which may then be of the scantling suited to the reduced span.

69. *Materials for Joinery.*—The timber used is to be sound redwood or whitewood of suitable joinery quality, and not inferior to good third Swedish or White Sea classification, or equal quality in Finnish or Russian production, red pine, pitch pine, Oregon pine or British Columbia pine. All may be used for both external and internal work, with the exception of whitewood and yellow pine, which may only be used for internal work. All the wood must be seasoned and dry. Wrack and dead wood will not be permitted.

70. *Timber Generally.*—All timber is to be cut square, free from excess of wane or discoloured sapwood. N.B.—These descriptions of materials for carcassing and joinery will only apply during the period of scarcity of timber. As the supplies improve fresh descriptions will be issued.

71. *Sills.*—The oak or chestnut used for sills is to be free from sapwood, dead knots, or other defects, and to be well seasoned and dry.

72. *Framed Work.*—All doors and other framed work are to be put together immediately upon the general work being commenced but not to be glued and wedged up until the joinery is prepared in readiness for immediate fixing. All framing is to be put together with well-fitting mortise and tenon joints wedged up solid. The foregoing does not apply to the external framework.

73. *Two-Story External Framework.*—The scantlings for the two-story external framework are to be as follows:—Subsill 6 in. by 3 in. plates and heads 4 in. by 3 in. Intermediate studs and braces 4 in. by 2 in., main posts and angle posts 4 in. by 4 in. The posts are to be in one length from subsill to roof plate. The whole of the framework is to be carefully set out with the intermediate studs at 16 in. centres. Where windows occur the studs are to be spaced and carried up as mullions. Each section of framework to be properly braced and the whole well spiked together. The subsill is to be treated under pressure, and the feet of all posts dressed with wood preservative.

74. *One-story External Framework.*—The stantlings for the one-story external framework may be 3 in. by 2 in. throughout, otherwise the foregoing specification for two-story cottages will apply. Where the cottages are constructed in sections they are to be properly bolted or screwed together.

75. *Stud Partitions.*—The scantlings for the internal stud partitions are to be 3 in. by 2 in. spaced at 16 in. centres. Any partitions carrying floors, beams or weight of any kind are to be braced as necessary.

76. *Metal Lathing.*—If the houses are to be finished with roughcast, the whole of the external framework is to be covered with approved metal lathing secured with stout approved galvanised staples. (See *Plasterer.*)

77. *Weather Boarding.*—If the houses are to be finished with weather boarding, cover the framework externally with 7 in. by 1 in. wrought, grooved and tongued weather boarding to detail, fixed with stout wrought cut nails to each stud. Cover the joints of weather boarding at angles of building with 3 in. by ¾ in. wrought and throated deal cover fillets and with similar cover board, but 4 in. by ¾ in., and twice throated where joints of sections occur.

78. *Rough Boarding.*—Line the walls of fuel store to a height of 6 ft. with ¾ in. rough boarding nailed direct to the studding.

79. *Ground Joists and sleepers.*—Where there are not solid lower floors there are to be ground joists on 4 in. by 2 in. fir sleepers, about 6 ft. apart, which are to be bedded down upon the honeycomb 4½ in. brick sleeper and fender walls, and kept 3 in. clear of all external walls; these sleepers are to be coated with one coat of creosote all round before bedding.

80. *Floor Joists and Beams.*—Construct the wood floors with joists and beams of the following scantlings or with joists of equal area and suitable depths:—

Depth in inches when the breadth of joists is:—

		2 in.	2½ in.	3 in.
Length of the bearing not exceeding	5 feet	4 in.	—	—
	6 „	4½ in.	4 in.	—
	8 „	5½ in.	5 in.	4½ in.
	9 „	6 in.	5½ in.	5 in.
	10 „	6½ in.	6 in.	6 in.
	11 „	7 in.	7 in.	6 in.
	12 „	8 in.	7 in.	7 in.

Depth in inches where the breadth of beams is 4 in.:—

10 feet	6 in.	
12 „	8 in.	

The upper floor joists are to bear direct on the beams, heads, and wall plates, and to be well spiked to same and the ends of joists and beams are to be cut to detail. All floor joists are to be fixed at spacings not exceeding 14 in. apart, and beams not more than 6 ft. apart, and each joist or beam is to have a full wall bearing at each end. The trimmers and the trimming joists are to be ½ in. thicker than the other joists. All the floor timbering is to be properly trimmed and tusk tenoned. Filleting is to be put around the hearth trimmings for receiving brick or concrete hearths.

81. *Cross-strutting.*—Put one row of 1½ in. by 1½ in. sawn herring-bone strutting to all bedroom floors where the bearing of the joists exceeds 8 ft. Solid strutting will be permitted.

82. *Flooring.*—Lay the wood floors on ground floor with 1 in. ploughed and tongued floor boards, and with 1 in. square edge flooring on first floor. The ground flooring may be laid either on a bed of mastic nailed direct to the breeze concrete or to 2 in. by 2 in. dovetail fillets creosoted under pressure or to the ground floor joists, thoroughly seasoned, well jointed and securely fixed to each joist with two 2½ in. brads well punched down. All the flooring is to be well cleaned off and protected. Put properly mitred margins around all the hearths. The finishing to the ground floors of parlours and living rooms may be formed with approved composition flooring or screeded with 1 in. thickness of Portland cement and sand (gauged 1 and 3), finished perfectly smooth and hard with a steel trowel. These finishings are not to be executed until just before the houses are completed. The composition flooring is to be polished with wax or other approved preparation.

83. *Ceiling Joists.*—The ceiling joists are to be 2 in. in thickness, spaced not exceeding 14 in. apart, not less than 3 in. or more than 5 in. deep, trimmed properly around trap doors and stacks, with stiffeners 5 in. by 1 in. and hangers 3 in. by 1½ in., wherever required fixed to purlins and rafters.

84. *Roofs.*—Construct the whole of the roofs with timbers of the following scantlings or of equal area and suitable depths :—

Rafters spaced not exceeding 14 in. apart.

Length of bearings not exceeding—	Dimensions.
5 ft.	3 in. x 2 in.
6 ft.	3½ in. x 2 in.
7 ft.	4 in. x 2 in.
8 ft.	4½ in. x 2 in. or 4 in. x 2½ in.
9 ft.	5 in. x 2 in. or 4½ in. x 2½ in

Hips and valleys are to be 9 in. by 2 in. or 11 in. x 1½ in., and ridges 7 in. x 1½ in. Put 1 in. boarding to valleys in slated roofs. The roofs are to be stiffened with the necessary collars and struts to carry 5 in. by 3 in. purlins at intervals of about 6 ft. The rafters are to be notched and spiked to the wall plates, purlins, and ridges. The ceiling joists are to be spiked to the rafters and ceiling beams.

85. *Fascias.*—A wrought fascia board 5 in. by 1 in. may be used spiked to the feet of the rafters to serve as a tilt for the tiling or slating with ¾ in. soffit boarding on suitable bearers; or the brackets to eaves gutters may be screwed to the sides of the projecting rafters. Where no soffit boarding is intended, the battens on backs of projecting rafters are to be omitted and 1 in. boarding is to be fixed instead. The feet of rafters and soffit of roof boarding where projecting are to be treated with one coat of approved wood preserving stain as described in *Painter.*

86. *Projecting Eaves.*—Eaves should not project more than 12 in beyond the face of the wall.

87. *Wood Fixing Slips, etc.*—Deal fixing slips are to be built in dry in the joints of brickwork or walling, or otherwise coke breeze bricks are to be built in for fixing joinery. Provide 2 in. by 2 in. dovetail fillets specified under flooring.

88. *Skirtings.*—Put 3½ in. by ¾ in. chamfered skirtings plugged to walls over all wood or composition flooring. 1½ in. by 1½ in. quadrant skirting fillet may be used in place of the above skirting.

89. *Chair Rails.*—Put to living rooms a 3½ in. by ¾ in. twice chamfered chair rail plugged to wall at a height of 2 ft. 6in. from floor to bottom of rail.

90. *Picture Rails.*—Put around the living rooms, parlours, and bedrooms a picture rail 1 in. by 1½ in. plugged to walls. As an alternative picture rail, a light steel tube with sleeve brackets, finished black, pinned into walls and carried across window as curtain rod, may be used.

91. *Cloak Rails.*—Cloak rails 6 ft. long 1 in. by 4 in. plugged to walls are to be fixed where indicated, and six hat and coat hooks are to be screwed thereon.

92. *Air Grids.*—Provide and fix in the larder fly-proof perforated zinc cover over the air brick fixed to small wood beading. Where air gratings are provided to bedrooms, they are to be fitted with wooden hoppers.

93. *Windows.*—All windows should be fixed close to the external wall face.

94. *Double-hung Sashes and Frames.*—The sash frames for double-hung sashes are to have 7 in. by 3 in. weathered and checked oak or chestnut sills, throated on underside, 4½ in. by 1 in. deal pulley stiles and heads, 4½ in. by 1 in. outer linings, extended where there are arches over 3 in. by ¾ in. inner linings, 1 in. by ⅝ in. inside beads, 5 in. by ½ in. back linings, 1⅝ in. by ½ in. parting slips, 1 in. by ½ in. parting beads, and 2½ in. by 1 in. draught boards. The sashes are to have 1⅜ in. by 3½ in. bottom rails, 1⅜ in. by 2 in. top rails and stiles, 2½ in. by 1½ in. meeting rails, and 1⅜ in. by 1½ in. square, chamfered, or moulded bars. The sashes are to be hung on stout cord with iron weights, and to have 1½ in. brass-faced axle pulleys.

95. *Casements.*—The casement frames are to have 6 in. by 3 in. weathered and checked oak or chestnut sills, throated on underside, and 4 in. by 2 in. deal frames and mullions, with ¾ in. rounded stops planted on and mitred, with casements fixed or hung therein, having 2 in. by 1⅜ in. top rails and stiles. 3 in. by 1⅜ in. bottom rails, and 1⅜ in. by 1½ in. square, chamfered, or moulded bars.

96. *Yorkshire Windows.*—Yorkshire windows are to have 6 in. by 3 in. weathered and checked oak or chestnut sills, throated on underside, 4 in. by 2 in. deal frame with ½ in. parting bead, ⅝ in. sash beads, and ¾ in. by ½ in. hardwood rounded runner let into sill, with sashes similar to last, some of the sashes being fitted to slide. Fit each sliding sash with 3 in. japanned iron cabin hook on plate and two eyes.

97. *Skylights.*—Where no windows are provided to staircases, supply and fix a standard pattern cast iron ventilating glazed skylight fixed on battening before the roof covering is put on. Trim and form opening in rafters and in ceiling joists and form well-hole with 3 in. by 2 in. timbers from ceiling joists up to soffit of rafters and line with lath and plaster or fibrous slabs as described in Plasterer.

98. *Cover Fillets.*—Put 1 in. by 1 in. quadrant rounded or moulded cover fillets internally and externally around windows after the plastering is completed, and before finishing coat of roughcast or harling is applied.

99. *Window Boards.*—The windows are to have 1 in. deal rounded window boards tongued to oak sill.

100. *Doors Generally.*—The doors are to be of a uniform height, and all doors giving access to rooms and cupboards are to be 2 ft. 6 in. wide, the doors to w.c.'s, e.c.'s, larders, coal stores, and outbuildings are to be 2 ft. wide.

101. *Front Doors.*—The front doors are to be 1⅜ in. thick, with 4½ in. top rails and stiles, 9 in. lock and bottom rails, 1⅜ in. lower panels, bead and butt flush on the outside, 1⅜ in. by 1⅜ in. squared, chamfered or moulded glazing bars in the upper panel, and ½ in. ovolo moulded glazing beads. Screw on 1½ in. by 3 in. shaped weather fillet let into the bottom rail of door, the full width of door, the frame to be notched for same, and the ends of the weather fillet slightly splayed. These doors are to be hung with three 4 in. butts to 4½ in. by 3 in. rebated and moulded frames, the heads having 4 in. horns for building into the walls.

102. *Back Doors.*—The back doors are to be 1⅜ in. framed and ledged doors, having 4 in. by 1⅜ in. or 4½ in. by 1⅜ in. stiles, 9 in. by 1 in. or 8 in. by 1 in. middle and bottom rails, and 1 in. tongued grooved and V-jointed boarding, in widths not exceeding 5 in. each hung with three 4 in. butt hinges to 4½ in. by 3 in. rebated and moulded frames, the heads having 4 in. horns for building into the walls.

103. *Internal Doors.*—The internal doors are to be 1⅜ in. four-panel or other approved square doors, with 9 in. by 1⅜ in. or 8 in. by 1⅜ in. lock and bottom rails, 4½ in. by 1⅜ in. or 4 in. by 1⅜ in. top rails muntins and stiles, and ⅝ in. panels, hung with pair of 3 in. butts to 6 in. by 1⅜ in. lining, with 3 in. by ⅜ in. stops for 4½ in. walls, or 4 in. by 1⅜ in. frames with 2 in. by ½ in. stops for 3 in. slab concrete partitions.

104. *Ledged and Braced Doors.*—The coal store and w.c. or e.c. are to have 1 in. ledged and braced doors, with 7 in. by 1⅜ in. ledges, 4½ in. by 1⅜ in. braces, 1 in. tongued, grooved and V-jointed boarding, and hung with 14 in. Tee hinges to 4 in. by 2 in. frames with ¾ in. rounded stops planted on.

105. *Iron Dowels.*—Put ⅝ in. wrought iron dowels 4 ins. long between feet of frames of external doors and thresholds under same. The dowels are to be galvanised after being cut to lengths.

106. *Fanlights.*—Provide and fix over internal doors wherever required 1½ in. moulded fixed fanlight and glaze same with 15 oz. sheet glass, the linings and frames of doors being carried up to receive same.

107. *Architraves.*—Provide and fix around doorways ⅝ in. by 2½ in. moulded, rounded or chamfered fillet as architraves.

108. *Dressers.*—In districts where dressers are usually provided in living rooms, they are to be constructed with 1¼ in. table top 18 ins. wide, and the part below same enclosed and fitted with 1¼ in. square doors hung with pair of 2 in. butts and fitted with iron butterfly turnbuckle and staple, 1 in. pot board and bearers, and 1 in. shelf in enclosed portion, with drawers 7 in. high having 1 in. beaded front and ⅜ in. rims dovetailed together, and ⅜ in. bottom on proper runners, the part above table top to have two 1¼ in. diminished standards, three 1 in. grooved shelves, with fillet at back plugged to wall as bearer the full length of shelves, and 1 in. top with 1 in. by 1½ in. cornice. Provide and fix to each drawer two plain blacked iron handles, and to shelves two dozen brass cup and jug hooks. Where it is usual for tenants to provide their own dressers, a suitable place or recess is to be formed to receive them.

109. *Staircase.*—Construct the staircase with 1½ in. treads, with rounded nosing, and 1 in. risers, tongued in both edges and glued, blocked, and bracketed on stout fir carriages, 1¼ in. square wall strings and 1½ in. outer strings framed to 3 in. newels with shaped or turned top. The staircases enclosed between walls are to have 2 in. by 1½ in. hollowed wall handrail screwed to plugs in wall, and staircases open on one side are to have 3 in. by 2 in. American whitewood oval handrail fixed to 1 in. deal square balusters spaced two per step. Where stairs are open on one side, enclose the space under same with ¾ in. matched and V-jointed boarding nailed to fir bearers to form cupboard and form a ledged door hung with pair of 8 in. wrot iron strap hinges to 3 in. by 2 in. deal frames and fitted with straight cupboard lock.

110. *Cupboards.*—Construct the cupboards as shown on drawings with 1½ in. doors and frames as previously described for internal doors, except that the doors are to be fitted with 1½ in. iron-button on plate and 1½ in. iron knob. Provide and fix 5 ft. above floor one ¾ in. shelf on chamfered bearers and ¾ in. by 5 in. chamfered hat rail under shelf with japanned malleable iron wardrobe hooks spaced 9 in. apart.

111. *Linen Cupboard.*—The linen cupboard is to be formed as last described and fitted with three tiers of slate shelving of ¾ in. by 2 in. slats spaced 1½ in. apart on chamfered bearers.

112. *Shelving.*—Provide and fix above the slate or stone shelving in larder three tiers of 1 in. deal shelving, one 11 ins. and two 9 in. wide, on chamfered bearers. Provide and fix 50 ft. run of 1 in. by 9 in. shelving in suitable positions upon deal gallows brackets, or stamped steel brackets, and 30 ft. of pin rails.

113. *Coal Boards.*—Provide for coal store four 1 in. by 9 in. coal boards 3 ft. high to slide in rebated runners nailed to door frame.

114. *Draining Board.*—Provide and fix at side of sink 1 in. beech or sycamore, ledged and grooved, draining board, with ¾ in. by 3 in. skirting next walls fixed on deal bearers and gallows brackets where required.

115. *Trap Door.*—Provide in ceiling over staircase a 1 in. deal ledged trapdoor 2 ft. by 2 ft. for access to roof, with 1 in. beaded lining around. The lining is to be ½ in. deeper on two opposite sides, so as to keep the trapdoor ½ in. up for ventilation; the trapdoor to be secured with two bolts.

116. *Clothes Posts.*—Provide two 4 in. by 3 in. wrot clothes posts 10 ft. long each with two turned hardwood or iron pins at top. Set the feet of posts into the ground 2 ft. 6 in. deep, and nail on 1 in. rough bases 9 in. high mitred around between earth and air, and once creosote same before fixing.

117. *General.*—Provide and fix all blocks, plugs, etc., required, and do everything necessary to complete the carpenters' and joinery work to the satisfaction of the architect.

Ironmongery.

118. *General.*—The ironmongery generally is to be of the approved standard pattern. All brass fittings are to be fixed with brass screws. All butts are to be best quality pressed steel butts. The keys of all locks and night latches to external doors are to differ for each cottage.

Plasterer and Asbestos Sheeting.

119. *Lime.*—The lime for plastering is to be well burnt stone or chalk lime, and it is to be run into putty at least one month before use.

120. *Sand.*—The sand for plastering is to be clean, sharp, river or pit sand, free from earth, loam or saline materials, and well screened.

121. *Hair.*—The coarse stuff throughout is to have 9 lbs. of good, long hair, free from grease or other impurities, well beaten up and mixed with every cube yard of the coarse stuff. If mill-ground coarse stuff is made use of, the hair is to be added after grinding.

122. *Laths.*—The laths are to be rent, of single lath or sawn lath and half strength; each lath is to be properly secured with 1 in. wire nails to each ceiling joist, butt jointed, and to break joint every three feet.

123. *Cement.*—The Portland cement is to be as previously described.

124. *Proportions of Materials.*—For the coarse stuff one part of lime is to be well mixed with three parts of sand by measure, and in this is to be incorporated 9 lbs. of hair with every cube yard. For the setting coat not less than one part of lime putty is to be well mixed with one part of clean sand.

125. *Ceilings, Partitions and Soffits.*—Lath and plaster with two coats the whole of the ceilings, sloping ceilings, partitions and inner face of framing, and the soffits of the staircases wherever they are exposed. Fibrous plaster seasoned slabs ⅜ in. thick cast with a rough surface for plastering, fixed with 1½ in. composition nails, 4 in. centres, and finished with a setting coat may be used in place of last as well as other approved linings. Or approved asbestos sheeting $\frac{1}{16}$ in. thick may be used, laid vertically, and joints covered with a 2 in. by ½ in. wood fillet.

126. *Slab Partitions.*—Properly set all slab partitions on both faces where provided.

127. *Float and set.*—Float and set the whole of the exposed faces of chimney breasts. In all cases the plastering on walls and partitions is to be continued down to the floor levels.

128. *Salient angles.*—The external angles throughout the plastered walls are to be slightly rounded and the first coat of plastering thereon is to be gauged with cement.

129. *Cement Skirting to Sink.*—Put Portland cement skirting to sink where it abuts against walls up to the window sill, or otherwise 9 ins. high, trowelled to a smooth and impervious face; or glazed tile skirting may be used.

130. *Metal lath work and rough-cast.*—If the exterior of the cottage is to be roughcast first render the metal lathing with cement and sand from the inner face. When this is tolerably well set repeat the operation from the outer face and float completely, embedding the lathing. Well score the surface and finish with rough-cast or other approved finish.

131. *Asbestos covering.*—If the exterior is to be finished with asbestos sheeting it shall be not less than ¼ in. thick, properly prepared, and compressed sheets securely nailed to the timber framing. The sheets shall be laid with vertical joints covered with a 2 in. by ½ in. wood fillet or other approved cover. The asbestos sheets may be $\frac{1}{16}$ in. thick, if laid with a solid boarded backing not less than ½ in. thick, but the sheets shall be properly nailed through into the framing.

132. *General.*—Make good after all other trades and leave the plasterers' work perfect on completion.

Founder and Smith.

132. *Eaves gutters.*—The eaves gutters are to be cast iron beaded, half round standard pattern, the joints made in red lead and bolted, fixed on standard galvanised wrought iron or galvanised stamped steel brackets, two to each 6 ft. length of gutter, with spiked ends for driving into the concrete eaves course, or screwed to the feet of the rafters, sprocket pieces or fascias. Provide all requisite cast angles, stopped ends and outlets with nozzles.

133. *Fall Pipes.*—All the fall pipes are to be cast iron standard pattern piping, with projecting ears to keep pipes 1 in. clear of the walls, fitted with all necessary swan-necks, shoes, and heads, and fixed with 3 in. rose-headed nails.

134. *Stoves and Ranges.*—The stoves are to be generally of the mantel register type, selected from standard patterns. The ranges are to be of standard pattern.

135. *Dustbin.*—Provide and place in position a standard galvanised iron sanitary dustbin 18 in. diameter and 24 in. high complete with cover.

Plumber.

136. *Materials and Workmanship.*—All the lead used is to be the best milled lead, and of the full weight specified. The running joints in lead pipes and the joints to fittings are to be wiped soldered joints.

137. *Chimney Aprons.*—The aprons of the lower sides of the chimney stacks are to be 4 lb. lead let ¾ in. into the joints of the brickwork or walling, to be brought not less than 3 in. down the chimney side, and to lie 6 in. on the tiles or slates, secured with lead wedges and pointed in cement, well worked round the returns of the stacks, and there covered with the cover flashings.

138. *Gutters.*—Lay the gutters behind chimney stacks (where required) with 5 lb. lead turned up 4 in. against brickwork and 8 in. under slates and tiles, and not less than 6 in. wide on sole at narrowest part.

139. *Soakers.*—In all cases where the raking line of tiling or slating meets brickwork or walling, 3 lb. lead soakers are to be fixed, one to each slate or tile, turned up 3 in. against the walls and laying 5 in. on the slating or tiling, and to be 3 in. in addition to the full gauge of the tiles or slates.

140. *Flashings and Valleys.*—The lead soakers are to be covered with 4 lb. lead stepped flashings 8 in. wide, turned ¾ in. into the joints of the brickwork or walling, secured with lead wedges and pointed in cement. The straight flashings are to be similar, but 6 in. wide. Lay the valleys in slated roofs with 4 lb. lead, 15 in. girth.

141. *Water Service.*—Lay on water service to house in accordance with the local regulations with either lead pipe or galvanised wrought-iron steam tubing as required, and connect with the public water main. Provide a screw-down stop-cock fixed inside each house, easy of access, where the main supply enters the house; and one on the down service just under the cistern.

142. *Cistern.*—Carry a ½ in. rising main up to a 40 gallon standard galvanised iron cistern fixed on sufficient bearers. From cistern, run 1 in. down service, with ¾ in. branch to bath and ½ in. branch to sink, W.W.P. copper and lavatory basin.

143. *Ball-cock.*—Provide and fix ball-cock over cistern.

144. *Warning Pipe.*—Provide and fix an iron or lead warning pipe connected to cistern, of sufficient size, discharging in an exposed position outside, with copper hinged flap on end.

145. *Wastes.*—From the sink and lavatory basin, take 1¼ in. and from the bath take 1½ in. iron waste pipes to the open, connected to the traps of the fittings and discharging over gullies or hopper heads.

146. *Rainwater Butts.*—Wherever rain-water butts are shown on the plans, they are to be 40 gallon petroleum cask, well burnt out and twice tarred externally, fitted with a 1 in. deal ledged cover twice tarred, perforated for the inlets. A 1¼ in. iron overflow is to be fixed to the cask, connected by an elbow with screwed and jointed washers to the barrel to discharge over an adjacent gully, or otherwise carried to a point at least 10 ft. away from the building where a soakaway is to be made 1 yd. cube in all.

147. *Soil Pipes.*—All the soil and ventilating pipes are to be 3½ in. cast-iron standard pattern, dipped in Dr. Angus Smith's solution, with projecting ears, fixed with 3 in. rose-headed nails, the joints caulked and run with blue lead or caulked with lead wool. The branch soil pipes and junctions are to be of standard pattern. The ventilating pipes are to be carried up 2 ft. above the roof or the top of the nearest dormer window, through the eaves of roof where these occur, flashed with a 5 lb. lead tile or slate soldered to the iron pipes tinned for the purpose, and terminated with a copper-wire balloon grating. The trap of w.c. is to be connected to the socket of the branch pipe and caulked with gaskin and jointed in red lead. The feet of soil and ventilating pipes are to be connected direct to the salt-glazed ware bend and caulked with gaskin and jointed in Portland cement and sand gauged 1 to 3.

148. *Bath and Lavatory Wastes.*—The external wastes of the bath and lavatory basin on the first floor are to be 2 in. cast-iron standard pattern, all as described for soil and ventilating pipes, but jointed in red lead and tow, with hopper heads to receive the discharge pipes at the top and shoe at bottom to discharge over gully.

149. *W.C. or E.C.*—The w.c. is to be a stoneware pedestal closet with waterwaste preventer, with 1½ in. galvanised steel flush-pipe and 1½ in. plain hard-wood seat, unpolished, in one thickness, all to approved pattern. The flush-pipe is to be jointed water-tight to the flushing arm of the w.c. Put ½ in. wrought-iron overflow to the water-waste preventer, carried through the external wall with a projection of 6 in. The e.c. is to have a strong galvanised iron sanitary pail with handles, and is to be fitted with 1½ in. seat with properly dished hole on 5 in. by 3½ in. bearers.

150. *Washing Copper.*—Washing copper. (See "Bricklayer.") Provide and fix over copper ½ in. bib-cock.

151. *Sink.*—Sink. (See "Bricklayer.") Provide and fix over sink two ½ in. bib-cocks, marked "Hot" and "Cold" respectively.

152. *Lavatory Basin.*—The lavatory basin is to be glazed stoneware with overflow, brass waste plug and chain, and hot and cold taps and iron trap, and is to be fixed on brackets or bearers, the whole to standard pattern.

153. *Bath.*—The bath is to be cast-iron greenstone, vitreous enamelled, set on feet with brass waste plug and chain, hot and cold taps and iron trap, all to standard pattern.

154. *Cocks.*—The bib, stop and ball cocks are all to be brass, of approved pattern.

155. *Testing.*—Test the whole of the internal plumber's work, water supply and fittings, and leave in perfect working order at completion.

Hot Water Fitter.

156. *Pipes.*—The pipes are to be wrot-iron welded steam tubing as previously specified for water supply, except in districts where lead or copper pipes are necessary, when they are to be as hereafter specified.

157. *System.*—The hot water supply may be provided by means of either the tank or the cylinder system, or where the bath is on the ground floor and not far from the boiler, an approved "Gravitation" system. N.B.—In each case the system proposed to be adopted must be specified and comply with the following requirements: From the cold water cistern, take a ¾ in. galvanised steam barrel supply to the hot-water apparatus with a screw-down stop-cock in same just under cistern. The tanks or cylinders are to be 14 gauge tested galvanised wrot-iron of 30 gallon capacity with bolted manhole in same and with flanged connections for pipes. The flow and return pipes are to be not less than 1 in. diameter, and in districts where the water is hard the flow and return pipes are to be not less than 2 in. diameter for 6 ft. above boiler. From the flow pipe near the boiler take a branch to a convenient position and fix thereon a dead-weight safety valve. Take ¾ in. branch to the bath and ½ in. branches to sink and lavatory basin. Provide ¾ in. expansion pipe delivering over the cold water cistern. Form draw-off at lowest point in system, with ½ in. tubing properly connected to same, and provide and fix bib-cock to empty system.

158. *Lead or Copper Pipes and Copper Boiler and Cylinder.*—In districts where iron pipes, boilers and cylinder are not serviceable, the pipes are to be in lead or copper and the boot boilers at back of the range and the cylinder are to be of copper. The lead pipes are to weigh as follows: ½ in. diameter, 6 lb. per yd.; ¾ in. diameter, 9 lb. per yard; 1 in. diameter, 12 lb. per yard; 1¼ in. diameter, 18 lb. per yard. The copper pipes are to be of No. 10 gauge. The copper boot boilers to be $\frac{1}{16}$ in. plate,

to hold 3 gallons, with bosses brazed on and tapped for connections to pipes. The cylinders are to have No. 22 gauge copper body and top and No. 18 gauge bottom, with bosses brazed on and tapped for connections to pipes.

159. *Testing.*—Test the whole of the hot-water service and leave in perfect working order at completion.

Gas or Electric Light Supply.

160. *General.*—Arrange with the local gas or electric light supply undertakers for the gas lighting and cooking or electric light installation complete.

Glazier.

161. *General.*—The windows are to be glazed with seconds 15 oz. sheet glass except where the squares exceed 1 ft. 6 in. superficial area, in which case 21 oz. sheet glass is to be used, well bedded, sprigged and puttied. Front door and w.c. and ground floor bathroom windows are to be glazed with approved obscured glass. All glazing rebates are to be primed. All putties are to be painted two coats.

Painter.

162. *Paint.*—The paint is to be obtained from an approved manufacturer, supplied ready mixed for use, of approved plain tints. The paint is to be used as sent by the manufacturer, and each coat is to be of a distinctive colour. The paintwork to be well rubbed down before the last coat is applied.

163. *Ironwork.*—The ironwork is to be cleaned entirely free from rust and to be painted one coat of oxide of iron paint just previous to fixing, and two coats of oil colour after fixing. Eaves gutters are to be painted inside and out. Coated soil, vent, and waste pipes are to be once knotted and painted two coats. All iron pipes inside houses not galvanised are to be painted one coat of oxide of iron paint before fixing and one coat of oil colour after fixing, and where exposed, distempered or whitened with the walls and ceilings.

164.—*Blacking.*—Clean and once black all stoves, range, copper and flue pipe from same, where not galvanised, and clean and polish the bright portions of range.

165. *Internal Woodwork.*—The whole of the internal woodwork usually painted is to be finished in one of the following methods:—(*a*) Treated with one coat of approved wood preserving stain in approved tints. (*b*) The inside of windows and window boards is to be painted three coats of oil colour, as described, for external woodwork, and the remaining work treated with one coat of approved wood preserving stain in approved tints.

166. *External Woodwork.*—The whole of the external wrought joiner's work, except where otherwise specified, is to be carefully knotted with patent knotting and primed before leaving the joiner's shop, and after fixing stopped with hard stopping and painted three coats of oil colour, including the putties of glazing, except where otherwise described. The feet of rafters and soffit of roof boarding, where projecting, and all other exposed boarding are to be treated with two coats of wood preserving stain.

167. *Glazing Rebates.*—All glazing rebates are to be primed.

Whitening and Distemper.—Clear-cole and once whiten all ceilings, also all friezes above picture rails. All wall surfaces, except in coal store, are to be clear-coled and once distempered with washable distemper of approved tints. Any cracks, blisters, or other imperfections in the plaster work are to be cut out, carefully stopped, and made good before any distempering is put in hand.

168. *General.*—Clean windows inside and outside, scrub pavings and floors, clear away rubbish and waste materials, and leave all parts of the premises clean and perfect at the completion of the work.

Birmingham.

The Housing and Estates Department (less the Estates Branch) of the Birmingham Corporation, has removed to Market-buildings, Moat-lane, Birmingham.

HOUSING AND TOWN-PLANNING NOTES.

WEEKLY HOUSING RETURN.

During the week ended March 13, tenders were submitted to the Ministry of Health for 10,708 houses. Tenders for 10,332 were approved, bringing the total number of houses in tenders submitted to 82,392 and in tenders approved to 75,142. On March 1, 511 houses had been completed ready for occupation, and 1,377 were in the final stages of construction. The total number of houses under construction but not finished was 9,125. Contracts had been signed for 32,586 houses. Details of local authorities' schemes dealt with during the week are as follows:—

Building Sites.

Schemes Submitted.—The number of schemes submitted was 113, bringing the total to 9,036 (60,500 acres). Larger new schemes are as follows:—

URBAN.	ACRES.
Darlington	82.50
Romford	27.96
Brownhills	19.89
Southgate	19.63
Belper (2 sites)	18.49
West Ham	11.40
Nuneaton	10.07
RURAL.	ACRES.
Doncaster (2 sites)	37.68
East Ashford	32.05

Schemes Approved.—The number of schemes approved was 133, bringing the total to 5,087 (41,000 acres). The larger schemes newly approved are as follows:—

URBAN.	ACRES.
Widnes (2 sites)	163.77
Bolton-upon-Dearne (2)	92.39
Greenwich	40.27
Dunstable	53.13
Abersychan	25.01
Slough	25.00
Tyldesley-with-Shakerley	21.00
Benfieldside	18.35
Felling	15.80
Sunderland	12.00
RURAL.	ACRES.
Cowbridge	36.47
Tadcaster (6 sites)	35.25
Chester-le-Street (2)	32.45
Thornbury (4)	12.51

Lay-Outs.

Schemes Submitted.—One hundred and eleven schemes were submitted, bringing the total to 3,053. The new schemes are as follows:—

URBAN.—Biddulph, Buxton, Cannock, Chingford, Croydon, Denholme, Dover, Egham, Ellesmere Port and Whitby, Frome, Gelligaer, Greenwich, Halesworth, Hastings, Hay, Leadgate, Llandovery, Llanfairfechan, Malvern, Oakengates, Rainford, Stepney, Swadlincote, Thurmaston, Uttoxeter, Uxbridge, Wantage, Ware, Wisbech, Woodstock.

RURAL.—Bakewell, Banbury, Barnet, Basford, Biggleswade, Blything, Caxton and Arrington, Conway, Crick, Cuckfield, Culham, Epsom, Farnham, Guildford, Hayfield, Henley, Hollingbourne, Hoo, Leigh, Lexden and Winstree, Loddon and Clavering, Midhurst, Penybont, Pontefract, Sleaford, Smallburgh, Thornbury, Wantage, Ware, Warwick, Whiston, Wokingham, Wycombe. COUNTY COUNCIL.—Isle of Ely.

Schemes Approved.—The following 83 schemes were approved, bringing the total to 2,479:—

URBAN.—Appleby, Ashington, Bexley, Biddulph, Brentford, Buxton, Cannock, Chesterfield, Cleethorpes-with-Thrunscoe, Croydon, Cuckfield, Denholme, Dover, Egham, Ely, Frome, Greenwich, Hessle, Malvern, Manchester, Neath, Oakengates, Portishead, Reigate, Southampton, Swadlincote, Thurmaston, Uttoxeter, Uxbridge, Wisbech, Woodstock.

RURAL.—Alnwick, Amersham, Banbury, Blaby, Braintree, Caxton and Arrington, Crick, Cricklade and Wootton Bassett, Culham, East Westmorland, Epsom, Erpingham, Fordingbridge, Hemsworth, Henley, Hoo, Lexden and Winstree, Loddon and Clavering, Maldon, Melford, North Witchford, Pontefract, Romford, Samford, Sedgefield, Sleaford, Sunderland, Thornbury, Wangford, Wantage, Ware, Warwick, Wokingham, Wycombe. COUNTY COUNCIL.—Isle of Ely.

House Plans.

Schemes Submitted.—Schemes representing 7,108 houses were submitted. The total now represents 149,281 houses. New schemes are as follows:—

URBAN.—City of London, 600 houses; Alderley Edge, 28; Berwick-on-Tweed, 24; Biddulph, 86; Bushey, 66; Buxton, 7; Chesham, 89; Chingford, 40; Croydon, 1,304; Dover, 250; Dunstable, 46; Ebbw Vale, 42; Egham, 8; Ellesmere Port and Whitby, 10; Erith, 93; Frome, 33; Godmanchester, 6; Greasborough, 20; Guildford, 155; Halesworth, 14; Hanwell, 131; Hastings, 90; Havant, 106; Hemel Hempstead, 110; Heston and Isleworth, 306; Hitchin, 236; Horbury, 127; Kingston-on-Thames, 199; Lambeth, 16; Leadgate, 38; Llandovery, 70; Llanfairfechan, 20; Llanfrechfa Upper, 60; Lowestoft, 16; Malvern, 32; Margate, 86; Merton and Morden, 198; New Windsor, 46; Oakengates, 90; Otley, 210; Petersfield, 18; St. Pancras, 12; Salford, 318; Sawbridgeworth, 16; Shepton Mallet, 6; Stepney, 15; Thurmaston, 12; Turton, 56; Uttoxeter, 132; Ware, 46; Wednesbury, 206; Wembley, 13; West Ham, 110; Wisbech, 40; Woodstock, 8.

RURAL.—Banbury, 12 houses; Barnack, 4; Biggleswade, 8; Blything, 4; Caxton and Arrington, 20; Cuckfield, 12; Easton, 60; East Retford, 63; Epsom, 36; Farnham, 22; Hartley Wintney, 12; Henley, 4; Hollingbourne, 34; Hoo, 44; Howden, 20; Lexden and Winstree, 10; Loddon and Clavering, 16; Midhurst, 22; Northampton, 50; Penybont, 267; Pontefract, 30; Runcorn, 130; Sherborne, 8; Sleaford, 8; Smallburgh, 4; Stafford, 4; Stow-on-the-Wold, 6; Wantage, 12; Warwick, 54; Whiston, 4; Wokingham, 4. COUNTY COUNCIL.—Isle of Ely, 7; Oxford, 1.

Schemes Approved.—Schemes representing 7,016 houses were approved. The total number now approved represents 136,633 houses.

URBAN.—City of London, 200 houses; Anfield Plain, 91; Banbury, 3; Bedwas and Machen, 50; Biddulph, 86; Bishops Stortford, 8; Buxton, 7; Chesham, 89; Chesterfield, 20; Croydon, 1,304; Cuckfield, 12; Dover, 250; Dunstable, 46; Egham, 8; Ely, 18; Erith, 93; Frome, 33; Godmanchester, 6; Great Torrington, 8; Guildford, 147; Havant, 106; Hastings, 18; Hemel Hempstead, 92; Heston and Isleworth, 306; Hitchin, 236; Horbury, 127; Ipswich, 16; Kensington, 230; Liverpool, 66; Lowestoft, 16; Malvern, 32; Margate, 86; Merton and Morden, 198; Middleton; Neath, 12; Newbiggin, 190; Newport Pagnell, 2, New Windsor, 46; Northampton, 20; Oakengates, 90; Portishead, 30; Redcar, 86; Reigate, 20; St. Pancras, 12; Southend-on-Sea, 15; Southampton, 12; Thurmaston, 12; Uttoxeter, 132; Wandsworth, 400; Ware, 46; Wealdstone, 179; Wednesbury, 206; Wembley, 13; West Ham, 110; Wisbech, 40; Woodstock, 8.

RURAL.—Amersham, 10 houses; Banbury, 12; Barnack, 4; Braintree, 26; Caxton and Arrington, 20; Cricklade and Wootton Bassett, 12; Culham, 6; Easton, 60; East Retford, 63; Epsom, 12; Erpingham, 4; Fordingbridge, 32; Glanford Brigg, 14; Gloucester, 22; Hartley Wintney, 12; Headington, 4; Hendon, 199; Henley, 4; Hollingbourne, 34; Hoo, 28; Lexden and Winstree, 12; Llanelly, 8; Loddon and Clavering, 16; Maldon, 20; Melford, 10; Newtown and Llandiloes, 6; Northampton, 50; North Witchford, 6; Penybont, 72; Pontefract, 30; Runcorn, 130; St. Thomas, 4; Samford, 4; Shardlow, 68; Sherborne, 8; Skipton, 30; Sleaford, 8; Smallburgh, 4; Stafford, 4; Steyning West, 16; Stow-on-the-Wold, 26; Wangford, 4; Wantage, 12; Ware, 16; Warwick, 54; Wokingham, 4; Wortley, 112; Wycombe, 8. COUNTY COUNCIL.—Isle of Ely.

THE BUILDING TRADE.

PRIVATE ENTERPRISE IN HOUSING.

Its Financial Soundness and National Importance.

Addressing a meeting of surveyors, architects and builders recently, at the Surveyors' Institution, Westminster, the Right Hon. Sir Tudor Walters, M.P. (Paymaster-General), representing the Ministry of Health, made an appeal to private enterprise to take a prominent part in the provision of housing accommodation. He said he agreed entirely that the municipalities should build the first 100,000 houses under the great pressure and financial difficulty of immediate post-war conditions, and that it was a legitimate field of enterprise for municipalities. But even while the scheme was being carried out they ought at least to begin to lay the foundations again upon which they might re-erect the superstructure of private enterprise in housing at an early date. In consequence of the high prices of building materials and the shortage and high cost of labour, the private person, or the private builder, or the estate builder said: "No. If I build houses at the current cost, when things are normal, in a few years' time, they won't be worth as much as they cost me. Therefore, I shall be building with a certain loss." That, he thought, was a fair recognition of the position; the Government recognised it, and had decided that it ought to contribute a certain sum of money to represent the difference between the present cost of building a house and what would be its ultimate real value. The scheme of grants to private persons or bodies of persons for the construction of houses was simplicity itself. Persons wishing to build houses need not consult the Ministry of Health, and they need not say two words to a Housing Commissioner, but simply go back to their old method of building. They prepared their plans in accordance with certain standards and a very modest specification such as no surveyor would consider unduly exacting. They could get a copy of that from their local authority or the Ministry of Health. Their plan came before the local authority in the ordinary way, and if it was approved the authority notified its approval and issued a certificate which would entitle them to receive £160, or £140, or £130, according to which category the house came under. When they had built the house and got the certificate of the local surveyor that it had been completed in accordance with the plans and regulations, they got another certificate, and those two certificates together enabled them to receive direct from the Ministry of Health the sum to which they were entitled.

If it so happened that the local authority would not approve the plan, they could appeal to the Ministry of Health, who would see that justice was done; but in the ordinary way the machinery was very simple.

When they had built the house it was their own; no conditions or regulation s attached to it. They could sell it at any price they could get; they could let it at any rent they could get; they could make it a "tied" house or a "free" house, or anything they liked. The doctrine was not the use to which they put the house, but that a house of a certain type, not containing more than a certain number of superficial feet floor space, and subject to a very moderate specification, had been built. He had a strong feeling that £650 or £700 at the outside ought to build a first-class "parlour" cottage. Deducting the grant of £160 there remained £540, which would give a 4 to 5 per cent. investment. He wanted support in getting the first instalment of what he believed to be the vital policy of re-establishing private enterprise in building throughout the country. He was entirely satisfied that the proposition was financially sound, that it was worth their while to do it, and that it was worth their clients' while. He could not imagine anything more attractive than a scheme that paid the man who did it, and was also a benefit to the community.

The Federation of Building Trade Operatives.

The London District Council of the National Federation of Building Trade Operatives, has removed to 9, Rugby Chambers, Chapel-street, W.C.1. (Telephone, Holborn, 275).

THE PRICE OF BUILDING MATERIALS.

The Government has published a table, which we give below, showing the changes in prices of the principal building materials in London between July, 1914, and February, 1920. Copies may be obtained at H.M. Stationery Office, price 1d. each:—

Material.	Class.	Unit.	July, 1914.	December, 1918.	February, 1920.	Percentage increase of February prices over July, 1914.	Percentage increase of February prices over Dec. 1918.
			£ s. d.	£ s. d.	£ s. d.	Per cent.	Per cent.
Bricks	Flettons	1,000	1 14 0	2 7 8	3 2 6	83·8	31·1
Do.	Stocks (best)	1,000	1 16 6	3 3 6	4 10 0	149·4	41·8
Sand	Pit	Yd. (cube)	0 7 0	0 16 0	1 3 6	235·7	46·8
Ballast	Thames	Do.	0 5 9	0 17 0	0 19 6	253·6	14·7
Portland cement	Best	Ton	1 17 0	3 8 0	3 18 6	112	15·4
Lime	Stone	Do.	0 14 0	2 7 0	3 1 0	335·7	29·8
Do.	Blue lias	Do.	2 0 0	2 2 6	2 16 0	180	31·7
Slates	Best Blue Portmadoc, 20″ × 10″	1,200	11 13 0	23 15 0	35 0 0	200·4	47·3
Tiles (roofing)	Broseley	1,000	2 10 0	6 2 6	6 15 0	170·0	10·5
Do.	Yorkshire (red)	1,000	1 10 0	2 12 0	3 17 6	158·3	49·0
Tiles (hip and valley)	Broseley	Dozen	0 4 0	0 14 0	0 15 0	275	7·1
Timber	Carcassing	Standard	15 0 0	45 0 0	45 0 0	200	0
Do.	Yellow deal	Do.	22 0 0	50 0 0	55 0 0	150	10
Floor boarding	1″ plain	Square of 100 ft.	0 15 0	2 6 0	2 5 0	66·6	– 2·1
Damp proof course	Callender's bitumen	Ft. (linl.), for 9″ wall	0 0 1½	0 0 4	0 0 3½	100·0	– 12·5
Lead	Sheet	Ton	23 0 0	57 0 0	62 10 0	171·7	9·6
Do.	Pipe (in coils)	Do.	23 15 0	57 10 0	61 0 0	156·8	6·0
Glass	21 oz., fourths quality	Ft. (super)	0 0 3	0 0 8	0 0 8½	183·3	6·2
Rainwater goods	2½″ down pipe	Yd. (linl.)	0 0 11¾	0 3 0	0 4 2½	327·6	39·6
Do.	5″ gutter	Do.	0 0 9½	0 2 6	0 3 11½	400·0	58·3
Baths	5 ft. taper	Each	3 3 0	5 15 0	10 11 9	236·3	84·2
Kitchen ranges	36″	Do.	1 16 0	5 15 6	7 0 0	288·8	21·2
Mantel registers	12″ fire	Do	0 9 3	0 19 0	1 11 6	240·5	65·8
Rim locks	6″	Do.	0 1 2	0 3 4	0 3 9	221·4	12·5
3″ butts	Pressed steel	Dozen prs.	0 1 3	0 3 3	0 3 9	200·0	15·4
Nails	Cut nails	Per ton	12 5 0	28 10 0	33 0 0	169·3	15·8
Drain pipes	Untested, 9″	Yd. (linl.)	0 2 4½	0 5 5	0 7 7½	220·1	40·4
Closets	Pedestal, with seats	Each	1 0 6	2 0 11	2 14 0	163·4	31·9
Sinks	30″ × 18″ × 5″ (cane)	Do.	0 5 10	0 13 7	1 11 0	431·4	128·2
Stone	Portland	Ft. (cube)	0 2 4½	0 2 10½	0 4 3	78·9	47·8
Do.	York	Do.	0 2 10	0 5 8	0 11 9	314·7	107·3
White lead	——	Ton	29 15 0	72 10 0	85 15 0	188·2	18·2
Red lead	——	Do.	28 10 0	58 0 0	69 15 0	144·7	20·3
Boiled linseed oil	——	Gallon	0 2 4	0 8 7	0 11 5	389·2	33·0
Raw linseed oil	——	Do.	0 2 4	0 8 4	0 10 11	367·8	31·0
Linseed oil putty	——	Cwt.	0 9 0	1 6 0	1 11 3	247·2	20·2
Knotting	——	Gallon	0 10 6	1 10 0	1 18 6	266·6	28·3
Turpentine	——	Do.	0 2 10	0 10 9	0 16 10	494·0	56·6
Varnish	Pale copal oak	Do.	0 10 6	0 17 0	1 2 6	114·3	32·3
Plasterer's laths	Sawn single	Bundle	0 0 9½	0 4 0	0 4 3	436·8	6·2
Plaster	Second's (white)	Ton	1 4 0	2 4 0	2 14 0	125·0	22·7

PAYMENT BY RESULTS.

AT a conference of the trade unions affiliated to the National Federation of General Workers, held in London last week, the following resolution was passed: "That this conference is of opinion that the question of payment by results, with proper safeguards, is worthy of the consideration of the trade unions affiliated to this Federation." The safeguards proposed are:—(1) Where, by reason of the introduction of the 47-hour week, a workman is not able to earn on piecework his previous remuneration on the same job, the employer will undertake to recommend that suitable adjustments be made on the piecework price for that job; (2) that piecework prices shall be such as will enable a workman of average ability to earn at least 33⅓ per cent. over present time rates. Piecework prices, once established, shall not be altered unless the methods of manufacture are changed; (3) where prices are such that, on account of the reduction in hours, the workman of average ability is unable to earn 33⅓ per cent. over present rates, the necessary adjustments shall be made.

A further conference is now to be arranged with the employers for the working out of a definite agreement for the universal adoption of the piece-work system, and in the meantime a ballot on the subject is being taken of the skilled men in the engineering unions.

EX-SERVICE MEN IN THE BUILDING TRADE.

IN the House of Commons, last week, the Minister of Labour (Sir Robert Horne), said that 19,514 ex-Service men were being trained, but only 1,505 of these for the building trade; at least 27,500 more men were awaiting opportunities for training. It was urged that pressure should be exerted in order to open the ranks of the building trade to large numbers of discharged men. So far as the training of these men was concerned, they had been met by the building trade to some extent, but when it came to getting them into the industry they had been met by a definite refusal. He hoped public pressure would be brought to bear on the matter.

THE BUILDING TRADES' EXHIBITION.

THE following official visits to the Building Trades' Exhibition, which is to be formally opened at Olympia by Dr. C. Addison (Minister of Health), on April 10, at 12 noon, are announced:—

April 10.—The Architectural Association, at 2.30 p.m.

April 12.—Institution of Heating and Ventilating Engineers and Institute of Clayworkers, at 2.30 p.m.

April 13.—Royal Sanitary Institute, at 2.30 p.m.

April 14.—Institution of Municipal Engineers, at 3.30 p.m.

April 15.—London Association of Master Decorators and Institute of British Decorators, at 2.30 p.m. The Society of Architects.

April 16.—District Surveyors' Association, at 2.30 p.m.

April 17.—Institution of Sanitary Engineers, at 3 p.m.

April 20.—National Federation of Building Trades' Employers, at 3 p.m.

April 21.—Concrete Institute, at 3 p.m.

The Cost of Building Materials.

In reply to a question in the House of Commons on Monday last, Dr. Addison stated that the question of costs and profits in the supply of building materials was being inquired into by a Committee appointed under the Profiteering Act, and he hoped the findings would be published very soon. Except that certain quantities of materials had been purchased for housing purposes, there was no system of priority in force. He was not aware that building schemes had been indefinitely postponed on account of building costs.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters	Masons' Labourers.	Bricklayers' Labourers	Plasterers' Labourers.
Aberdare	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Accrington	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Altrincham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		2/7½–1/7½	
Ashton-under-Lyne	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Barnsley	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Barrow-in-Furness	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Barry	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Bath	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/4½	1/4½
Bedford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½	1/3½	1/3½
Birkenhead	2/–§	2/–§	2/–§	2/–§	2/–§	2/–§	2/–§	1/4½	1/4½	1/4½
Birmingham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½
Bishop Auckland	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Blackburn	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Blackpool	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Bolton	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Bournemouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/2½	1/2½
Bradford	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/2½	1/2½	1/2½
Brighton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Bristol	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/7½	1/7½	1/7½
Burnley	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Burton-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Bury	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Cambridge	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Cardiff	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Chatham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/1½	1/1½
Cheltenham	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Chester	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Chesterfield	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/6½§	1/6½§	1/6½§
Colchester	1/6½§	1/6½§	1/6½§	1/6½§	1/6½§	1/6½§	1/6½§	1/3½§	1/3½§	1/3½§
Coventry	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Crewe	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½§	
Darlington	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Derby	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/8½§	1/6½§	1/6½§	1/6½§
Doncaster	1/9½	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/6½§	1/6½§	1/6½§
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Durham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
East Glam. and Mon. Valleys	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Exeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/3½	1/3½	1/3½
Folkestone	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Gloucester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½§	1/3½§	1/3½§
Grantham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Grays	1/11½§	1/11½§	1/11½§	1/11½§	1/11½§	2/–§	1/10½§	1/8½	1/8½	1/8½
Grimsby	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Great Yarmouth	1/7½§	1/7½§	1/7½§	1/7½§	1/7½§	1/7½§	1/6½§	1/4½§	1/4½§	1/4½§
Guildford	1/6½	1/6½	1/6½	1/6½	1/6½	1/7½	1/5½	1/3½	1/3½	1/3½
Halifax	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Harrogate	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/6½§	1/6½§	1/6½§
Hartlepools	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Hastings	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Hereford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½§	1/3½§	1/3½§
Huddersfield	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Hull	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Ipswich	1/7½§	1/7½§	1/7½§	1/7½§	1/7½§	1/7½§	1/6½§	1/4½§	1/4½§	1/4½§
Lancaster	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§		1/5½–1/6½	
Leamington Spa	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Leeds	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Leicester	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Lincoln	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Liverpool	2/–§	2/–§	2/–§	2/–§	2/–§	2/–§	2/–§	1/6½	1/6½	1/6½
Llanelly	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/8½	1/8½
London	1/11½§	1/11½§	1/11½§	1/11½§	—	2/0½	1/10½§	1/6½§	1/6½§	1/6½§
Loughborough	1/9½	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/8½§	1/5½	1/5½	1/5½
Luton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½	1/3½	1/3½
Maidstone	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½		1/7½–1/7½§	
Manchester	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/6½§	1/6½§	1/6½§
Mansfield	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/8½§	1/6½	1/6½	1/6½
Merthyr Tydfil	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/8½	1/8½
Middlesbrough	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Newcastle-on-Tyne	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/6½	1/6½	1/6½
Newport, Mon.	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½§	1/6½§	1/6½§	1/6½§
Northampton	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/6½§	1/4½§	1/4½§	1/4½§
Norwich	1/7½§	1/7½§	1/7½§	1/7½§	1/7½§	1/7½§	1/6½§	1/8½	1/8½	1/8½
Nottingham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½§	
Oldham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½§	
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/2½	1/2½	1/2½
Plymouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½§	1/5½§	1/5½§
Pontypridd	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Portsmouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2½§	1/2½§	1/2½§
Preston	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§		1/5½–1/6½	
Reading	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½§	1/6½§	1/6½§
Rochdale	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½§	
Rochester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Rugby	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/8½§	1/6½§	1/6½§	1/7½
St. Albans	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/3½§	1/3½§	1/3½§
St. Helen's	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½§	
Scarborough	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/6½§	1/6½§	1/6½§
Sheffield	1/11½	1/11½	1/11½	1/11½	1/11½	2/–§	1/8½	1/8½	1/8½	1/8½
Shrewsbury	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/8½§	1/6½§	1/6½§	1/6½§
Southampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2½§	1/2½§	1/2½§
Southend-on-Sea	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/5½§	1/5½§	1/5½§
Southport	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§		1/5½–1/6½	
South Shields	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Stockport	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½§	
stockton-on-Tees	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Stoke-on-Trent	1/8½	1/8½	1/8½	1/8½	1/8½	1/9½	1/8½	1/5½§	1/5½§	1/5½§
Stroud	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½§	1/3½§	1/3½§	1/3½§
Sunderland	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Swansea	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Taunton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½§	1/3½§	1/3½§
Torquay	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2½§	1/2½§	1/2½§
Wakefield	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Walsall	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/8½§	1/6½§	1/6½§	1/6½§
Warrington	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½§	
West Bromwich	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Wigan	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½§	
Windsor	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Wolverhampton	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/8½§	1/6½§	1/6½§	1/6½§
Worcester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
York	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/6½§	1/6½§	1/6½§

The Masons' rate given is for bankers: fixers usually ½d. per hour extra. * War bonus of 3s. per week granted. † War bonus of 3s. per week granted. ‡ War bonus of 2s. 6d. per week granted. ‡‡ War bonus of 5s. per week granted. ¶ War bonus of 7s. 6d. per week granted. § These rates include the 12½ per cent. bonus. [The above rates, unless otherwise shown, are exclusive of 12½ per cent. bonus.—ED.]

COMPETITIONS, CONTRACTS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number. Contracts iv; Competitions iv; Public Appointments lxiv; Sales by Auction lxix. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where, quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

MARCH 27.—**Cardiff.**—RENOVATION.—Internal renovations at Ely Lodge, for the Board of Guardians. Mr. A. J. Harris, clerk, 11, Park Place, Cardiff.

MARCH 27.—**Edinburgh.**—RECONSTRUCTION.—Reconstruction of 15, King's Stables-road, for the T.C. Mr. J. A. Williamson, A.R.I.B.A., Public Works Offices, Edinburgh.

MARCH 27.—**Farnham.**—HOUSES.—Erection of 26 houses at Lawday House, Weybourne and Badshot Lea, for the U.D.C. Mr. Harold Falkner, 24, West-street, Farnham.

*MARCH 27.—**Leiston-cum-Sizewell.**—HOUSES.—Erection of 128 for the U.D.C. Mr. J. A. Sherman, 9, Northgate-street, Ipswich.

MARCH 27.—**Stoke-on-Trent.**—SHEDDING, &c.—Erection of shedding, fencing, &c., in connection with Exhibition of Staffordshire Agricultural Society. Mr. H. H. Garlick, Secretary, Eccleshall, Staffordshire.

*MARCH 27.—**Waltham Abbey.**—WAR MEMORIAL.—Erection of. Messrs. Tooley & Foster, architects, Buckhurst Hill, Essex.

MARCH 29.—**Bedwas.**—HOUSES.—Erection of 50 houses at Bedwas and 50 at Machen for the U.D.C. Mr. A. S. V. Taylor, Council Offices, Bedwas, Mon. Deposit, £2 2s.

MARCH 29.—**Dagenham.**—HOUSES, &c.—The L.C.C. invites tenders, upon a cost plus profit basis, for the development of its new housing estate at Dagenham, Essex. The work comprises: (a) Construction of arterial and development roads, sewers, bridges, and other works incidental to the lay-out of an estate of approximately 3,000 acres; (b) the erection of approximately 24,000 houses and such administrative buildings as may hereafter be determined. Architect to the Council, County Hall, S.E. 1.

MARCH 29.—**Edinburgh.**—ALTERATIONS.—For alterations at Old Normal School, for the T.C. Mr. J. A. Williamson, city architect, Public Works, Offices, Edinburgh.

MARCH 29.—**Glasgow.**—EXTENSION.—Extension to Kennyhill Special School, Dennistoun, for the Glasgow E.A.—Education Offices, 129, Ball Street, Glasgow.

MARCH 29.—**Margate.**—HOUSES.—Erection of 70 houses of various types for the Borough. Mr. W. R. H. Gardner, Architect, 12, Grosvenor-place, Margate.

MARCH 29.—**Runcorn.**—HOUSES.—Erection of 58 houses of various types for the R.D.C. Messrs Wright & Hamlyn, Sankey-street Chambers, Warrington.

MARCH 29.—**Runcorn.**—HOUSES.—Erection of 16 houses for the U.D.C. Mr. A. P. Harcourt, architect, Town Hall, Runcorn. Deposit £2 2s.

MARCH 29.—**St. Marylebone.**—ALTERATIONS.—Certain alterations in the Workhouses in Northumberland-street, W., for the Guardians. Mr. A. Saxon Snell, F.R.I.B.A., 9, Bentinck-street, W. 1.

MARCH 29.—**Salford.**—HOUSES.—Erection of 390 houses at Weaste, for the T.C. Mr. G. Westcott, 13, Bridge-street, Manchester.

MARCH 29.—**Salisbury.**—COTTAGES.—Erection of nine pairs of cottages in different parishes for the R.D.C. Mr. M. Harding, Architect, 65, New-street, Salisbury.

MARCH 29.—**Shoreham-by-Sea.**—HOUSES.—Erection of 56 houses for the U.D.C. Surveyor, Town Hall, Shoreham-by-Sea.

MARCH 29.—**Sowerby Bridge.**—HOUSES.—Erection of 13 houses for the U.D.C. Mr. J. Eastwood, Surveyor, Council Offices, Sowerby Bridge. Deposit, £1 1s.

MARCH 29.—**Teignmouth.**—Foundation work and housing of gas plant for the U.D.C. Mr. H. Higham, gas engineer, Gas Works, Teignmouth.

MARCH 29.—**Torquay.**—ALTERATIONS.—For alterations and extensions of premises for Messrs. W. H. Smith & Son. Messrs. Watson & Watson, architects, 36, Torwood-street, Torquay. Deposit £3 3s.

MARCH 29.—**Westhampnett.**—HOUSES.—Erection of 24 houses on separate sites for the R.D.C. Mr. John Dovaston, A.R.I.B.A., Council's Architect, Pinlant House, Chichester.

MARCH 29.—**Wigan.**—HOUSES.—Erection of 135 houses for the T.C. Mr. R. B. Donald, borough engineer, Wigan. Deposit £2 2s.

MARCH 29.—**Worsley.**—HOUSES.—Houses, for the U.D.C. Mr. J. Foy, Architect, 21, Acresfield, Bolton.

MARCH 30.—**Arbroath.**—HOUSES.—Five blocks of apartment houses. Mr. J. Holden Peacock, Architect, 38, Commerce-street, Arbroath. Deposit £1.

MARCH 30.—**Barrow-in-Furness.**—SCHOOL.—Erection of semi-general secondary school for the Education Committee. Borough Engineer, Town Hall, Barrow.

MARCH 30.—**Belfast.**—ALTERATIONS.—Alterations at Clerk's Office for the Board of Guardians. Office of the Clerk at the Workhouse, Belfast.

MARCH 30.—**Edinburgh.**—TRAINING DEPOT.—Various trades required in connection with extension of motor garage at training depot of the T.C. Mr. J. A. Williamson, city architect, Public Works Office, Edinburgh.

MARCH 30.—**Finchley.**—PAINTING.—External decorations at Workmen's dwellings, Woodhouse Estate, for the U.D.C. Mr. H. Catchpole, Council Offices, Finchley, N. Deposit, £1.

MARCH 30.—**Foleshill.**—HOUSES.—Erection of 30 houses at Exhall for the R.D.C. Mr. A. E. Newey, Surveyor, Council Offices, Foleshill. Deposit, £2.

MARCH 30.—**Lymington.**—COTTAGES.—Erection of six cottages at Pilley for R.D.C. Mr. W. Ravenscroft, architect, Brienteroft, Milford-on-Sea.

MARCH 30.—**Glasgow.**—PAINTING.—Painting a South Side Telephone Exchange, Glasgow, for H.M. Office of Works. Principal Architect, H.M. Office of Works, 3, Parliament-square, Edinburgh. Deposit £1 1s.

MARCH 30.—**Guildford.**—124 houses at Guildford Park, for the Borough.

MARCH 30.—**Loughton.**—50 houses on the Habgood Estate for the U.D.C.

MARCH 30.—**Yeovil.**—HOUSES AND ROADS.—Erection of 99 houses and construction of roads and sewers for the T.C. Messrs. Petter & Warren, Architects, 74, Hendford, Yeovil.

MARCH 31.—**Daichully.**—COTTAGE.—Erection of cottage and stabling at Daichully. Mr. S. Fraser, Estate Office, Gallovie, Kingussie.

*MARCH 31.—**Epsom.**—COTTAGES.—Erection of 12 at Lumley-road, Cheam, Surrey, for the R.D.C. Mr. A. W. Tribe, architect, Denison House, Westminster.

MARCH 31.—**Lancashire.**—RENOVATIONS.—Renovations at schools at Earlestown, Penketh and Burtonwood for the Lancashire E.C. Mr. T. Clark, Town Hall, Earlestown.

MARCH 31.—**Lepton.**—HOUSES.—Erection of 38 houses for the U.D.C. Messrs. J. Berry & Sons, architects, 3, Market-place, Huddersfield.

MARCH 31.—**Llanharran.**—GARAGE, &c.—Garage and billiard room at "Turberville" Hotel. Messrs. Thomas & Morgan & Partners, Architects, Pontypridd. Deposit £2 2s.

MARCH 31.—**Llanybyther.**—VARIOUS.—(1) Heating and plumbing work, (2) builder's work, and (3) general painting work at the King Edward VII Welsh National Memorial Association. Mr. J. Cook Rees, Parade-chambers, Neath.

MARCH 31.—**Nottingham.**—GARAGE.—Erection of motor-'bus garage in Turney-street, for the T.C. Mr. A. Brown, city engineer, Guildhall, Nottingham. Deposit £2.

MARCH 31.—**Oldham.**—PAINTING.—For painting, &c., Assembly Room at Town Hall, for the T.C. Mr. J. J. Williams, town clerk, Town Hall, Oldham.

MARCH 31.—**Oswestry.**—HOUSES.—Erection of 50 houses on Llwyn-road site, for the Borough. Messrs. Butler, M.S.A., & Lewis, 76, Broughton-road, Handsworth, Birmingham.

MARCH 31.—**Rhiwbina.**—HOUSES.—Erection of 92 houses for the Cardiff Workers Co-operative Garden Village Society, Ltd. Mr. T. Alwyn Lloyd, L.R.I.B.A., M.T.P.I., 32, Park-place, Cardiff.

MARCH 31.—**Sevenoaks.**—HOUSES.—Erection of 12 houses for the R.D.C. Mr. P. F. Potter, 49, London-road, Sevenoaks.

MARCH 31.—**Sutton Coldfield.**—HOUSES.—Erection of 18 houses for the T.C. Borough Surveyor, Council Chamber, Sutton Coldfield. Deposit, £1 1s.

MARCH 31.—**Thurlestone.**—CROSS.—Erection of granite cross. Mr. C. Marshall, Leeside, Thurlestone, Devon.

MARCH 31.—**Torquay.**—ALTERATIONS AND EXTENSIONS—to No. 74 and 75, Fleet-street, Torquay, for Messrs. W. H. Smith & Sons. Watson & Watson, architects, 36, Torwood-street, Torquay.

MARCH 31.—**Walton-upon-Thames.**—HOUSES, ROADS, ETC.—Erection of 52 houses, and the construction of roads, sewers and house drainage for the U.D.C. Mr. Percy H. Webb, Clerk to the Council, Council Offices, Walton-upon-Thames.

APRIL 1.—**Galgate.**—ALTERATIONS.—For alteration of building in Stoney-lane, for the Ellel War Memorial Institute Committee. Messrs. J. Webster & B. D. Stuart, Institute, Galgate, Lancaster.

APRIL 1.—**Mitcham.**—HOUSES, SEWERS, &c.—Laying out and sewering two new streets, and erection of 140 houses for the U.D.C. Mr. Robert M. Chart, F.S.I., M.S.A., Lower Green, Mitcham.

APRIL 1.—**Woodford.**—HOUSES.—Erection of 256 for the U.D.C. Mr. Crickmer, 1, Lincoln's Inn Fields, W.C2.

APRIL 2.—**Uxbridge.**—HOUSES.—Erection of 10 houses at Northolt, 18 at Ickenham, and 32 at Harefield Park, and 68 at Harefield Common, together with road work for the R.D.C. Mrs. R. S. Bowers, Architect, 27A, Bush-lane, Cannon-street, E.C. Deposit, £2 2s.

APRIL 3.—**Chilham.**—FARM BUILDINGS, &c.—Two cottages and set of farm buildings at Stone Stile Farm, Chilham, for the Kent C.C. Mr. A. Barker, County Land Agent, 27, High-street, Maidstone.

APRIL 3.—**Gorran.**—RESIDENCE.—Erection of villa residence at Gorran Haven. Mr. F. C. Jury, Architect Tregarthan, Poltan, St. Austell.

APRIL 3.—**Helensburgh.**—HOUSES.—Erection of 60 houses for the T.C. Mr. J. N. Stirling, Burgh Surveyor, Helensburgh.

APRIL 3.—**Innerleithen.**—HOUSES, &c.—Erection of 24 houses, roads, &c., for the T.C., Mr. D. Nicholson, Town Clerk, Innerleithen.

APRIL 3.—**Richmond (Yorkshire).**—EXTENSIONS.—Extensions at St. Nicholas. Mr. J. Jackson, Architect, Marske-by-the-Sea.

APRIL 5.—**Beverley.**—PAINTING.—For painting a Asylum, for the East Riding Visiting Committee. Mr. C. W. Hobson, clerk, 26, Langate, Beverley.

APRIL 5.—**Edinburgh.**—RECONSTRUCTION.—For reconstruction of tenements in Dumbiedykes-road, West Port and Cowgate. Director of Housing, 1, Parliament-street, Edinburgh.

APRIL 5.—**Edinburgh.**—HOUSES.—Erection of 100 houses at Willowbrae-road, for the T.C. Mr. J. D. Gibson, quantity surveyor, 60, Frederick-street, Edinburgh.

APRIL 5.—**Cartoosh and Glenbolg.**—STATION RECONSTRUCTION.—Reconstruction of Station buildings at Cartoosh and Glenbolg for the Caledonian Railway Co. Engineer, Offices, Buchanan-street, Glasgow. Deposit, £2 2s.

*APRIL 5.—**Kent (Cobham).**—COTTAGES AND FARM BUILDINGS.—Erection and completion of 2 cottages, one set of farm buildings and adaptations to pair of cottages at Dabbs-place, Cobham. Mr. A. Barker, County Land Agent, 27, High-street, Maidstone.

*APRIL 6.—**Aldershot.**—HOUSES.—Erection of 100, for the U.D.C. The surveyor, Municipal Buildings, Aldershot.

APRIL 6.—**Chingford.**—HOUSES.—Erection of a number of small houses for the U.D.C. Clerk to the Council, Council Offices, Chingford, E.4.

APRIL 6.—**Glamorganshire.**—SCHOOLS.—(1) New boys' and girls' school at Caerphilly (Twyn), (2) new Mixed and infants' school at Pontyclun (Llantrisant), (3) new boys' school at South Bargoed, (4) new boys' school at Beddau (Llantrisant), (5) new boys' school at Clydach-on-Tawe, (6) new infants' school at Kingsbridge, (7) new infants' school at Duffryn Rhondda (Cymmer, Port Talbot), for the County Council. Mr. H. D. Rowland, Assistant Secretary, Glamorgan County Hall, Cardiff.

APRIL 6.—**Glasgow.**—SUB-STATION.—For various trades connected with erection of sub-station at Partick, for the T.C. Electrical Engineer, 75, Waterloo-street, Glasgow.

APRIL 6.—**Glasgow.**—EXTENSION.—Extension of Cathedral-street sub-station, for the Corporation. Electrical Engineer, 75, Waterloo-street, Glasgow.

APRIL 6.—**Gomersal.**—COTTAGES, &c.—Erection of homestead and two pairs of cottages for the West Riding Small Holdings Committee.—Architect, Small Holdings Committee, County Hall, Wakefield. Deposit £1.

APRIL 6.—**Kingsnorth.**—HOUSES.—Four houses at Kent Industrial School, Kingsnorth, near Ashford, for the Kent C.C. Mr. F. W. Ruck, County Architect, 86, Week-street, Maidstone.

APRIL 7.—**Barnet.**—COTTAGES.—Erection of 24 cottages at Harris-lane, Shenley, with certain sewage disposal and road works, for the R.D.C. Council Offices, Boreham Wood.

APRIL 7.—**Barnet.**—REPAIRS.—Painting and general repairs to New Infirmary, Wellhouses-lane, Barnet, for the Union. Messrs. Williams & Cox, architects, 34, Henritta-street, Covent Garden, W.C. 2.

APRIL 7.—**Hemsworth.**—PAINTING.—For outside painting at Poor-Law Institution, for the R.G. Mr. W. T. Lynam, surveyor, District Council Offices, Hemsworth.

APRIL 7.—**Nottingham.**—HOUSES.—Erection of 282 houses in eight contracts for the T.C. Mr. W. A. Kneller, 12, Victoria-street, Nottingham. Deposit, £2 2s.

APRIL 7.—**Sefton.**—HOUSES.—Erection of 36 houses in various townships for the R.D.C. Mr. E. B. Bailey, architect, 37, Moorfields, Liverpool. Deposit, £1 1s.

*APRIL 7.—**Sherbourne.**—HOUSES.—Erection of 12 for the U.D.C. Mr. Herbert A. Welch, A.R.I.B.A., Council Offices, Sherbourne, Dorset.

*APRIL 7.—**Wallasey.**—HOUSES—Erection of 47 houses (nine blocks of four each, one block of three, and four pairs). Mr. W. H. Travers, borough engineer and surveyor, 18, Falkland-road, Wallasey.

APRIL 8.—**Colwyn Bay.**—HOUSES.—Erection of 22 workmen's dwellings, for the U.D.C. Mr. W. Jones, surveyor, Council Offices, Colwyn Bay. Deposit £1 1s.

APRIL 8.—**Cornwall.**—POST OFFICE.—The Commissioners of H.M. Works, etc., invite tenders for the erection of a new Post Office, at St. Austell, Cornwall, Postmaster, at Austell.

APRIL 8.—**Essex.**—(a) Erection of four cottages near Cox's Farm, Mayland's Green, Romford; (b) alterations and additions, converting farm buildings into four cottages, Mayland's Green Farm, Romford; (c) erection of two cottages near Marshy Farm, Yeldham, for the Essex C.C. Mr. J. Stuart, County Architect, Chelmsford. Deposit £1 1s.

APRIL 9.—**Lambeth.**—Conversion of separate premises at Nos. 33 and 34, Guildford-road, South Lambeth, into five self-contained flats, for the Metropolitan Borough. Town Clerk, Lambeth Town Hall, Brixton Hill, S.W. 2.

APRIL 9.—**Staines.**—HOUSES, ROADS, &c.—Erection of 82 houses, road-making, fencing, &c., on five sites for the R.D.C.. Mr. G. W. Manning, London-road, Ashford. Deposit, £3 3s.

APRIL 9.—**Woking.**—COTTAGES.—Erection of 59 pairs of cottages of four different types for the U.D.C. The Surveyor, Council Offices, Woking.

APRIL 10.—**Batley.**—HOUSING.—Erection of twenty houses for the T.C. Mr. H. L. Hall, borough engineer, Town Hall, Batley.

APRIL 10.—**Brentford.**—HOUSES.—Erection of 44 houses for the U.D.C. Mr. W. J. W. Westlake, Surveyor, Council Offices, Clifden House, Boston-road, Brentford. Deposit, £2 2s.

*APRIL 10.—**Towcester.**—HOUSES.—Erection of 48 for the R.D.C. Messrs. Jackson, Slopp, architects, Towcester.

APRIL 12.—**Biggleswade.**—HOUSES.—Erection of 40 houses for the U.D.C. Mr. Thos. Cockrill, Architect, Council Offices, Biggleswade.

APRIL 12.—**Darlington.**—WAGON WORKS.—Erection of wagon building works for the North Eastern Railway Co. Mr. A. Pollard, Company's Architect, at York.

APRIL 12.—**East Ashford.**—HOUSES.—Erection of 20 houses for the R.D.C. Clerk to the Council, 7, Bank-street, Ashford, Kent.

APRIL 12.—**Macclesfield.**—HOUSES.—24 houses on the Park House Estate. Mr. E. Hanson, Borough Surveyor, Town Hall, Macclesfield. Deposit £2.

*APRIL 12.—**Romsey.**—HOUSES.—Erection of 20 houses for the borough. Mr. A. Haynes Johnson, Architect, 95A, High-street, Winchester.

APRIL 12.—**Southend-on-Sea.**—HOUSES.—Erection of 15 for the Borough, on the Sutton-road site. Mr. Robert H. Dyer, Borough Engineer, Municipal-buildings, Southend-on-Sea.

APRIL 13.—**Keadue.**—HOSPITAL.—For completion of Keadue Hospital, for the Cavan C.C. Mr. W. Finlay, Secretary, Court House, Cavan.

APRIL 13.—**Kingston-on-Thames.**—REPAIRS, &c.—For repairs and painting to the workhouse, Norbiton, for the Board of Guardians. Mr. W. H. Hope, Architect, Juppsland, Billinghurst. Deposit, £1.

✱APRIL 14.—**Epsom.**—COTTAGES.—Erection of 36 at Upper Mulgrave-road, Cheam, for the R.D.C. Mr. A. W. Tribe, architect, Denison House, Westminster.

✱APRIL 14.—**Manchester.**—SCHOOL.—Completion of the Orford-street Municipal School, Cheetham, Manchester, for the E.C. Education Offices, Deansgate, Manchester.

APRIL 14.—**Newport (Salop).**—HOUSES.—Erection of 28 houses for the U.D.C. Mr. F. H. Shayler, Architect, 10, Gateway-chambers, Shrewsbury. Deposit, £1 1s.

✱APRIL 14.—**Teddington.**—HOUSES, &c.—Erection of 124 of various types and sewer construction and road-making, in connection therewith. Mr. G. H. Salmons, clerk to the council, Elmfield House, Teddington.

✱APRIL 15.—**Chatteris.**—HOUSES.—Erection of 20, for the U.D.C. Mr. S. Hipwell, architect, surveyor's office, Chatteris.

✱APRIL 16.—**East Sussex.**—LAVATORIES.—New, and alteration to existing, at East Grinstead Public Elementary Council School. F. J. Wood, Esq., M.S.A., County Surveyor's Dept., County Hall, Lewes.

✱APRIL 16.—**West Sussex.**—COTTAGES.—Erection of 32, for the C.C. Mr. Hayden P. Roberts, F.R.I.B.A., county architect, Thurloe House, Worthing.

✱APRIL 21.—**Barnet.**—COTTAGES.—Erection of 24 cottages at Harris-lane, Shenley, for the R.D.C. Clerk, Council Offices, Boreham Wood.

✱APRIL 24.—**Stafford.**—INSTITUTE.—Erection of a county mining institute, at Ford Green, Smallthorne, for the E.C. Director of Education, County Education Offices, Stafford.

✱APRIL 28.—**Newport Pagnell.**—HOUSES.—Erection of 10 for the R.D.C. Mr. W. B. Stonebridge, M.S.A., architect, 26, St. John's-street, Bedford.

✱MAY 10.—**Tilbury.**—COTTAGES.—Erection of 1,520 for the U.D.C., Mr. S. A. Hill-Willis, M.I.C.E., engineer to the Council, Council Offices, 47, Dock-road, Tilbury.

NO DATE.—**Bannockburn.**—HOUSES.—50 houses, for the Stirling C.C. Mr. D. W. Glass, Architect, 7, Gladstone-place, Stirling.

✱NO DATE.—**Birmingham.**—VARIOUS BUILDING MATERIAL.—The Housing Director of the City invites manufacturers of various articles to submit prices and samples. Housing Director, Market-buildings, Moat-lane, Birmingham.

NO DATE.—**Cambridge.**—HOUSES.—130 houses, for the T.C. Mr. J. D. Bland, Architect, Guildhall, Cambridge.

NO DATE.—**Cardiff.**—SHOPS.—Extensive block of shops and offices. Mr. H. Budgen, Architect, 95, St. Mary-street, Cardiff. Deposit £4 4s.

✱NO DATE.—**Hornsey.**—Provision and erection of 2 temporary classrooms, Crouch End School, Park-road, Crouch End. Secretary for Education, 206, Stapleton Hall-road, Stroud Green, N.4.

NO DATE.—**Kirkinilloch.**—HOUSES.—Houses, for the T.C. Mr. D. Patrick, Town Clerk, Council Chambers, Kirkinilloch.

✱NO DATE.—**Newcastle-under-Lyme.**—HOUSES.—Erection of 56; also street works for the R.D.C. Mr. Geo. Collins, A.R.I.B.A., M.S.A., 4A, Market-place, Newcastle, Staffs.

✱NO DATE.—**Paignton.**—HOUSES.—Erection of 69 parlour type houses at St. Michael's, Paignton, for the U.D.C. Messrs. Bridgman & Bridgman, F.R.I.B.A., and W. G. Couldrey & Son, M.S.A., architects, 19, Palace-avenue, Paignton.

✱NO DATE.—**Tendring.**—HOUSES.—Erection of 28, for the R.D.C. Housing Officer, Weeley, Essex.

FURNITURE, MATERIALS, etc.

MARCH 27.—**Bacup.**—MATERIALS.—Supply of materials to the T.C. Borough Surveyor, Town Hall, Bacup.

MARCH 27.—**Hampton Wick.**—TAR.—Supply of 6,000 gallons of distilled tar. Mr. H. Fawsett, clerk, Council Offices, Hampton Wick.

MARCH 27.—**Kiveton Park.**—ROAD MATERIALS.—Supply of granite and tar macadam for R.D.C. Mr. F. Hewitt, surveyor, Council Offices, Kiveton Park.

MARCH 27.—**Selby.**—ROAD MATERIALS.—For road materials for one year, for the R.D.C. Mr. J. Townend, clerk, Council Offices, Selby.

MARCH 27.—**Waterloo-with-Seaforth.**—MATERIALS.—Year's supply of materials to the U.D.C. Mr. F. Spencer Yates, Surveyor, Town Hall, Waterloo.

MARCH 29.—**Normanton.**—MATERIALS.—Supply of materials to the U.D.C. Mr. J. W. Martin, clerk, Council Offices, Normanton.

MARCH 29.—**Surbiton.**—MATERIALS.—Supply of materials for one year to U.D.C. Surveyor, Council Offices, Ewell-road, Surbiton.

MARCH 29.—**Ticehurst.**—ROAD MATERIALS.—Road material to the R.D.C. Mr. W. E. Bright, surveyor Wadhurst.

MARCH 30.—**Tenterden.**—MATERIALS.—Supply of road material to the R.D.C. Mr. W. L. C. Turner, district surveyor, Tenterden.

MARCH 31.—**Droylsden.**—MATERIALS.—Supply of materials to the U.D.C. Mr. G. Smith, clerk, Council Offices, Droylsden.

MARCH 31.—**Great Crosby.**—MATERIALS.—Supply of materials to the U.D.C. Mr. J. A. Wright, surveyor, Council Offices, Great Crosby.

APRIL 1.—**St. Albans.**—SEWERAGE PLANT.—Works in connection with extension of sewage disposal works for the City Council. Messrs. Howard Humphreys & Sons, 28, Victoria-street, Westminster, S.W. Deposit, £2 2s.

APRIL 3.—**Ramsey.**—ROAD MATERIALS.—Supply to the U.D.C. of road materials. Mr. R. F. Sergeant, Clerk, Ramsey, Hunts.

ENGINEERING, IRON AND STEEL.

MARCH 26.—**Exmouth.**—WATER PIPES.—Supply of 65 tons of cast-iron pipes for the U.D.C. Mr. S. Hutton, engineer, Public Hall, Exmouth.

MARCH 26.—**Farnham.**—LAMP COLUMNS.—For 50 octagonal cast-iron lamp columns, for the U.D.C. Mr. R. W. Cass, surveyor, South-street, Farnham.

MARCH 29.—**Birmingham.**—RESERVOIR.—Construction of covered service reservoir at Yardley Wood, for the Corporation. Mr. E. Antony Lees, Council House, Birmingham. Deposit £5.

MARCH 29.—**East Dean.**—WATERWORKS.—(1) Supply of pipes; (2) supply of valves, &c.; (3) haulage pipes and laying mains; (4) construction of reinforced concrete reservoir, for the R.D.C. Mr. W. Whitehouse, engineer, Cinderford, Gloucestershire. Deposit £2 2s.

MARCH 29.—**Edinburgh.**—STEELWORK.—Provision and erection of structural steelwork on the Portobello generating station. Mr. J. A. Williamson, Public Works Office, Edinburgh.

MARCH 29.—**Teignmouth.**—GAS PLANT.—Installation of Water gas plant for the U.D.C. Mr. H. Higham, gas engineer, Gas Works, Teignmouth.

MARCH 30.—**Tilbury.**—HOT WATER SYSTEM.—Fixing hot water supply system to 49 cottages on Cottage Garden Estate, for the U.D.C. Mr. S. A. Hill-Willis, Engineer, Council Offices, 47, Dock-road, Tilbury. Deposit £1 1s.

MARCH 31.—**Salford.**—HEATING.—Refitting hot-water pipes, radiators, &c., at Hope Infirmary, for the B.G. Mr. T. R. Wollaston, Consulting Engineer, 26, Corporation-street, Manchester.

APRIL 1.—**Portadown.**—BRIDGE.—Widening of Portadown River Bridge for the U.D.C. Mr. M. H. W. McCletchey, town clerk, Portadown. Deposit £1 1s.

APRIL 1.—**Prestonpans.**—HEATING.—For installation of heating apparatus in public school, for the Haddingtonshire E.C. Mr. R. D. Robinson, Education Offices, Haddington.

APRIL 7.—**Lochgelly.**—RAILWAY.—Construction of railway line to the housing site for the T.C. Mr. A. Lumsden, burgh surveyor, Lochgelly. Deposit £2 2s.

APRIL 8.—**Manchester.**—CONCRETE CAISSON.—Construction of reinforced concrete caisson at the oil dock, Stanlow, for the Manchester Ship Canal Co. Mr. H. A. Reed, Chief engineer, 41, Spring-gardens, Manchester. Deposit £2 2s.

ROAD, SANITARY, AND WATER WORKS.

MARCH 27.—**Bicester.**—ROADS.—Construction of road and main drainage work for the U.D.C. housing scheme of 55 houses. Mr. H. W. Smith, 57, High street, Oxford.

MARCH 27.—**Hyde.**—SEWERING.—For sewering Lilly-street for the T.C. Borough Surveyor, Town Hall, Hyde.

MARCH 29.—**Eccles.**—ROADS AND SEWERS.—Roads and sewers on housing estate. Borough Surveyor, Town Hall, Eccles. Deposit £2 2s.

MARCH 29.—**Paddington.**—SANITARY.—Collection and removal of house refuse in the Queen's Park District for the B.C. Borough surveyor, Town Hall, Paddington. Charge 2s. 6d.

MARCH 29.—**Rothwell.**—ROADS AND SEWERS.—Construction of roads and sewers for the U.D.C. Messrs. Jones & Stocks, architects, 56, Prudential Buildings, Park-row, Leeds. Deposit £1 1s.

MARCH 29.—**Wardle.**—ROADS AND SEWERS.—Construction of streets and sewers for the housing scheme of the U.D.C. Mr. J. H. Hurst, Surveyor, Council Offices, Wardle, near Rochdale. Deposit, £1 1s.

MARCH 29.—**Wolverhampton.**—SEWERS.—Construction of 1,970 yards of 9 in. and 370 yards of 12 in. pipe sewers for the T.C. Mr. G. Green, borough engineer, Town Hall, Wolverhampton. Deposit £2 2s.

MARCH 29.—**Wrexham.**—SANITARY.—Water closets, &c., at various properties of the T.C. Mr. J. Evans, Sanitary Inspector, 11, Temple-row, Wrexham.

MARCH 30.—**Ealing.**—ROADS.—Making up road north of Dibden House Depot for the T.C. Mr. W. R. Hicks, Borough Engineer, Town Hall, Ealing. Deposit, £1 1s.

MARCH 30.—**Eton.**—ROADS.—Re-surfacing carriage way in High-street, for the U.D.C. Mr. J. E. Hattersley, engineer, Council Offices, Eton.

MARCH 30.—**Llanfrechfa.**—ROADS AND SEWERS.—Construction of roads and sewers in connection with housing scheme at Pontnewydd, for the U.D.C. Mr. M. R. Jones, Surveyor, Astley House, Pontnewydd Mon. Deposit £1 1s.

MARCH 30.—**Otley.**—WATER MAINS.—Supply and laying 1,257 lineal yards of 4 in. cast water mains, &c., for the U.D.C. Mr. C. F. Hodgson, surveyor, Council Offices, Otley. Deposit £1 1s.

MARCH 31.—**Aldershot.**—Reconstruction of road (Victoria-road), for the U.D.C. D. Llewellyn Griffiths, Muncipal-buildings, Aldershot.

MARCH 31.—**Harrogate.**—ROADS AND SEWERS.—Construction of roads, sewers, &c., in connection with housing scheme. Mr. C. E. Rivers, borough engineer Harrogate.

MARCH 31.—**Hemsworth.**—SEWERAGE WORK.—Construction of sewerage and sewerage disposal works for the R.D.C. Mr. W. T. Lynam, surveyor, District Council Offices, Hemsworth. Deposit £2 2s.

MARCH 31.—**Saltburn-by-the-Sea.**—Diversion of 15 in. sewer, &c., for the U.D.C. Mr. L. Tait, Surveyor, Council Offices, Saltburn.

MARCH 31.—**St. Mawes.**—ROADS.—Road, sewer, &c., for the owner. Mr. F. W. Goolden, Surveyor, St. Mawes. Charge 2s. 6d.

MARCH 31.—**Wednesbury.**—ROADS AND SEWERS.—Construction of roads and sewers on Wood Green estate for the T.C. Mr. E. Martin Scott, Borough Engineer, Town Hall, Wednesbury. Deposit, £2 2s.

APRIL 1.—**Farnham.**—ROADS.—Surface taring of roads for U.D.C. Mr. R. W. Cass, Surveyor, Council Offices, Farnham.

APRIL 5.—**Rhymney.**—ROAD.—Making approach road from Hill-street to Garden City. Mr. W. Lloyd Marks, Surveyor, Rhymney.

APRIL 6.—**Rochdale.**—ROADS.—Construction of roads and sewers on housing sites. Borough Surveyor, Town Hall, Rochdale.

APRIL 7.—**Greenock.**—WATER WORKS.—Construction of filtered water tank and filter-house, for the T.C. Water Engineer, Municipal Buildings Greenock

APRIL 8.—**Newport (Salop).**—ROADS AND SEWERS.—Construction of roads and sewers on Longford-road housing site for the U.D.C. Mr. F. H. Shaylor, Architect, Gateway-chambers, Shrewsbury. Deposit, £1 1s.

APRIL 9.—**Lochgelly.**—ROADS, &c.—Construction of streets, sewers, water and gas mains in connection with housing scheme of the T.C. Mr. A. Lumsden, borough surveyor, Lochgelly. Deposit £2 2s.

APRIL 9.—**Port Glasgow.**—FILTERS.—Construction of two additional filters, for the T.C. Messrs. Crouch and Hogg, engineers, 14, Blythswood-square, Glasgow. Deposit £2 2s.

APRIL 9.—**Tividale.**—SEWERAGE WORKS.—Construction of settling tank, filter bed, &c., at Tividale, near Dudley, for the Upper Stour Valley Main Sewerage Board. Mr. W. Fiddian, engineer, 7, Church-street, Stourbridge. Deposit, £3 3s.

APRIL 9.—**Turdale.**—SEWERS.—Reconstruction of sewers in Cradley for the Upper Stour Valley Main Sewerage. Mr. W. Fiddian, engineer, 7, Church-street, Stourbridge. Deposit, £3 3s.

APRIL 10.—**Loughborough.**—SEWER.—257 lineal yards of 12 in. and 180 yards of 9 in. sewer. Mr. A. H. Walker, Borough Engineer, Loughborough. Deposit £2 2s.

APRIL 10.—**Spenborough.**—ROAD.—Construction of road in connection with sewerage scheme for the U.D.C. Mr. A. Rothers, surveyor, Town Hall, Cleckheaton. Deposit £2.

✱APRIL 12.—**Camberwell.**—Providing and laying of compressed Asphalte in various roads for the Borough. Mr. Frederick S. Slater, Borough Engineer, Town Hall, Camberwell, S.E.5.

APRIL 13.—**Romford.**—STREET WORKS.—(*a*) Wood paving in High-street, &c.; (*b*) tarred slag macadam roading in London-road, for the U.D.C. Mr. F. G. Beaumont, surveyor, Council Offices, Romford. Deposit £2 2s.

APRIL 14.—**Beddington and Wallington.**—ROADS AND SEWERS.—Construction of roads (preliminary works) and sewers for the U.D.C. Mr. S. F. R. Carter, Council Offices, Wallington.

APRIL 14.—**Llantrisant.**—ROAD.—Completion of certain roads for the R.D.C. Mr. T. Saunders, Surveyor, School-street, Pontyclun. Deposit, £5.

APRIL 15.—**Sutherland.**—ROADS.—For reconstructing roads, for the C.C. Mr. R. Grant, County-road, surveyor, Golspie.

Auction Sales, Tenders, &c.

MARCH 29.—**London, S.W.**—Messrs. Allsop & Co. will sell (by direction of the Disposal Board), building materials, sanitary fittings and household fixtures, at Preece's Riding School, Hollywood-road, Fulham. Auctioneers, 141, Park-road, Regent's Park, N.W. 8.

MARCH 30.—**Bristol.**—Messrs. Fuller, Horsey, Sons & Cassell will sell, at the Grand Hotel, contractors, plant, including locos, concrete mixers, pile engines, &c. Catalogues from Auctioneers' Offices, 11, Billiter-square, E.C. 3.

MARCH 30.—**Gloucester.**—Messrs. J. Hibbard & Son will sell at Toddington, Gloucester, a stock of English timber.

✱MARCH 30.—**Stratford.**—Messrs. Hamilton, Palmer & Co., Ltd., will sell, by direction of the Disposal Board, Ministry of Munitions, at the Royal Naval Experimental Station, Stratford, sectional and non-sectional buildings, and various other buildings. Auctioneers, 24-26, Holborn; and 78-81, Fetter-lane, E.C.

MARCH 31 AND 31.—**Bucks.**—Messrs. J. Hibbard & Sons, will sell by order of the Board of Trade, at Orchard Lea, Winkfield, Bucks, Saw Mills, hutments, etc.

APRIL 12.—**Tring, Herts.**—Messrs. W. Brown & Co., will sell at the Rose and Crown Hotel, Tring, 10 freehold building sites. W. Brown & Co., auctioneers, Tring.

APRIL 12 AND 13.—**Beverley Brook.**—Messrs. Allsop & Co. will sell by direction of the Disposal Board, at No. 2 Balloon Training Depot, Beverley Brook, huts, building and builder's plant. Catalogues, 141, Park-road, Regent's Park, N.W. 8.

✱APRIL 13.—**Arsenal, Woolwich.**—Messrs. J. T. Skelding & Co., will sell by direction of the Disposal Board, Temporary Hospital and Equipment at the Royal Arsenal. Auctioneers: J. T. Skelding & Co., 48, Gresham-street, Guildhall, E.C.2.

✱APRIL 13.—**Exeter.**—Messrs. Joseph Hibbard & Sons, will sell by order of the Disposal Board, at the Quicke Estate, near Newton St. Cyres Station, L. & S.W. Rly., four miles from Exeter, stock of well-cut English timber. Auctioneers, Newington Green, Islington, N.

APRIL 13.—**Studley.**—Messrs. J. Hibbard & Sons will sell, on the premises of Messrs. Beint & Sons' Mill, Studley, well cut stock of prime ash, 60,000 cube ft., cut into planks of all thicknesses. Catalogues, Auctioneer, Newington Green, N.

APRIL 14.—**Cleeve (Somerset).**—Messrs. Joseph Hibbard will sell, by order of the Board of Trade, on the Mill site, Cleeve, Somerset, well cut stock of English timber. Auctioneers, Newington Green, Islington, N.1.

✱APRIL 14.—**Epsom.**—Messrs. Fuller, Moon & Fuller will sell, by direction of the Disposal Board, at R.E. stores, Woodcote Park, huts, building materials and stores. Auctioneers, 83, High-street, Croydon, and High-street, Epsom.

✱APRIL 14 AND 15.—**Feltham, Middlesex.**—Messrs. E. & S. Smith will sell, by order of the Disposal Board, at the Aircraft Acceptance Park (Q Stores Dept., R.A.F.), Feltham, valuable constructional ironwork, ironmongery, timber, building materials and plant. Auctioneers, Carlton House, 68, Great Queen-street, Kingsway, W.C. 2.

Competitions.

(See Competition News, page 363.)

Public Appointments.

MARCH 26.—**East Riding of Yorks.**—ASSISTANT.—Assistant for the C.C. Salary £250 per annum.

MARCH 26.—**Southampton.**—Clerk of Works and junior architectural assistant for the County. Mr. W. J. Taylor, County surveyor, The Castle, Winchester.

MARCH 27.—**Cheshire.**—CLERK OF WORKS.—A clerk of works for the completion of the new Grammar School Buildings, Nantwich, Cheshire. Mr. T. H. Whiteley, Nantwich and Acton Grammar School, Nantwich.

MARCH 27.—**Newport, Mon.**—Temporary Architectural Assistant required by the County Borough. Mr. S. F. Ward, Borough Architect, Town Hall, Newport, Mon.

★MARCH 29.—**Bournemouth.**—Architectural assistant in the Borough Engineer's Department. Mr. F. P. Dolamore, Borough Engineer, Municipal Buildings, Bournemouth.

★MARCH 30.—**Cannock.**—Clerk of Works required by the U.D.C. Mr. C. A. Loxton, Clerk, Council Offices, Cannock.

MARCH 30.—**Lincoln.**—HOUSING ARCHITECT.—Salary £500 per annum. Mr. Wm. Bagshaw, Town Clerk, Guildhall, Lincoln.

MARCH 30.—**Sedgley.**—CLERK OF WORKS. Appointment of Building Superintendent or Chief Clerk of Works, for the U.D.C. Mr. Thomas R. Knight, clerk, Council House, Sedgley, Staffs.

MARCH 30.—**Wakefield.**—Quantity surveyor's assistant for the West Riding County Council. Mr. Louis J. Newton, County Quantity Surveyor, County Hall, Wakefield.

MARCH 31.—**Hadham and Stansted.**—Clerk of Works, for the R.D.C. Messrs. Sifton & Thorpe, architects, 38, Museum-street, W.C. 1.

MARCH 31.—**Exeter.**—Junior Architectural Assistant required, by the City Corporation. John Bennett, Esq., City Architect, Exeter.

★MARCH 31.—**Gloucester.**—Clerk of Works for the City. City Surveyor, Guildhall, Gloucester.

★MARCH 31.—**Hampton.**—Clerk of Works required by the Council for housing scheme. Mr. Sidney H. Chambers, Public Offices, Hampton, Middlesex.

MARCH 31.—**Oxford.**—CLERK OF WORKS.—Clerk of Works for housing farm buildings, &c. Salary £300 per annum, rising by £10 yearly to £350. Mr. James Rose, Clerk to the C.C., County Hall, Oxford.

★MARCH 31.—**Wood Green.**—ARCHITECTURAL ASSISTANT.—Temporary Architectural Assistant. Remuneration at the rates of £300 per annum inclusive. Mr. Wm. P. Harding, Clerk to the Council, Town Hall, Wood Green.

★APRIL 2.—**Southampton.**—SURVEYOR AND ACCOUNTANT.—Quantity Surveyor and Accountant for the county. Salary, including war bonus, at the rate of £350 per annum. Mr. W. J. Taylor, county surveyor, "The Castle," Winchester.

★APRIL 3.—**Gravesend.**—Draughtsman for the borough. Salary £200 per annum. Borough Surveyor Municipal Offices, Gravesend.

★APRIL 3.—**Hove.**—Temporary Architectural Assistant. Salary £300 per annum, also a temporary General Assistant. Salary £160 per annum, for the Borough. Borough Surveyor, Town Hall, Hove.

★APRIL 3.—**Willenhall.**—Clerk of Works for the U.D.C. Salary £300 per annum. Engineer and Surveyor, Town Hall, Willenhall.

APRIL 6.—**Newport Pagnall.**—CLERK OF WORKS.—Services of a Clerk of Works for the R.D.C.

★APRIL 7.—**Essex.**—Architectural Assistant for the C.C., County Architect, 79, Duke-street, Chelmsford.

★APRIL 8.—**Bootle.**—ASSISTANT.—Position of temporary Architectural Assistant, for the county borough. Salary, £300 per annum. Mr. J. Spencer Tumilty, town clerk, Town Hall, Bootle.

★APRIL 8.—**London, E.C.**—First-class Architectural Draughtsman for the Metropolitan Asylums Board. Clerk to the Board, Office of the Board, Embankment E.C. 4.

★APRIL 10.—**Barnack, Easton & Ketton.**—Clerk of Works for the R.D.C.'s. Salary £7 per week. Clerk to the Councils, 25, Broad-street, Stamford.

★APRIL 10.—**Leeds.**—INSTRUCTOR.—Assistant Instructor in the Architectural Department of the Leeds School of Art. Salary, from £250 to £300, according to qualifications and experience.

★APRIL 10.—**London.**—Assistant Instructors in handicraft (woodwork). For the L.C.C. Salary £150 a year, rising by yearly increments of £10 to £240. Education Officer (E.2) London County Council Education Offices, Victoria Embankment, W.C.2.

APRIL 13.—**Durham.**—Superintendent of Works, also Heating Engineer required by the Education Department, Director of Education, Shire Hall, Durham.

★APRIL 19.—**West Riding of Yorks.**—Architectural Assistant for the C.C. Education Architect, County Hall, Wakefield.

★NO DATE.—**Birmingham.**—Two Draughtsmen and a capable taker-off required by the City. Mr. Frank T. Cox, Housing Director, Market-buildings, Moat-lane, Birmingham.

★NO DATE.—**London, W. 1.**—Full-time lecturer in architectural work, building and practical geometry, for the Polytechnic, Regent-street, W. 1. Initial salary £225 to £315. Director of Education.

★NO DATE.—**Romford.**—Experienced Housing Assistant and Architectural Assistant for the U.D.C. Engineer and Surveyor, Romford.

NO DATE.—**Stroud.**—Architectural Assistant for the U.D.C. Engineer and Surveyor, Town Hall, Stroud, Glos.

THE SUPPLY OF CEMENT.

WE have received the following communication from the Associated Portland Cement Manufacturers, Ltd.:—

"As you are probably aware, the production of cement was reduced during the war to about one-half of the pre-war output. Since the declaration of the Armistice manufacturers throughout the country have been endeavouring to increase their production to the maximum, but owing to the shortage of experienced labour, suitable fuel and materials for repairs, the full output has not yet been attained. Further, owing to the shortage of means of transport there has been a serious dislocation of the work of distribution, and at times it has been difficult to keep works open owing to the accumulation of stocks which could not be distributed to the consumer. The experience of these difficult times has convinced the Boards of the Associated Portland Cement Manufacturers, Ltd., the British Portland Cement Manufacturers, Ltd., Martin, Earle & Co. Ltd., and the Wouldham Cement Co., Ltd., that increased efficiency in the distribution of the cement manufactured by them would be effected by the consolidation of their selling and distributing organisations. To effect this consolidation the Cement Marketing Co., Ltd., has been formed, which company will, on and after the 1st proximo, solely undertake the selling and distribution of the cement, lime and other goods manufactured and produced by the companies above named.

"It is hoped that the fact of the allocation of railway trucks, motor lorries and vans, the management of the various companies' large fleet of barges and lighters, and the chartering of vessels being under one central control will enable the new company to lessen, if not overcome, the difficulties now existing in connection with the distribution of cement and to see that the interests of the various buyers receive equitable treatment.

"In order to prevent any misunderstanding, it may be well to state that this rearrangement of selling methods is entirely a matter of internal organisation, and has no bearing whatever on the question of prices. The directorate and staff of the Cement Marketing Co., Ltd., will consist of those hitherto handling the output of the above companies, so that a continuity of touch with old customers is guaranteed. All orders and inquiries should, after the same date, be sent to the Cement Marketing Co., Ltd., 8, Lloyds-avenue, E.C. 3."

OBITUARY.

Mr. W. Bullen.

The death has occurred of Mr. William Bullen, managing director of Messrs. Bullen Brothers & Sons, Ltd., Liverpool. Mr. Bullen was past-president of the Liverpool Master Builders' Association and the North-Western Federation of Building Trades' Employers. Messrs. Bullen carried out several large contracts during the war, including the Knowsley Camp, and the Filling and Amatol Factories, at Aintree.

Mr. C. Chittick.

We regret to record the death of Mr. Chas. Chittick, Permanent Director and Chairman of Messrs. T. Shaw & Co., Ltd., constructional engineers, of Millwall, which occurred on February 25. Mr. Chittick obtained, in 1871, the position of general manager to the firm of Mattw. T. Shaw & Co., becoming a partner in 1880. Under this supervision Messrs. Shaw, in 1881, built and equipped new works at Millwall (since considerably enlarged and modernised), where many engineering contracts have been executed. Upon the death of Mr. Mattw. T. Shaw in 1886, the business was continued by Mr. Harry T. Shaw and Mr. Chittick until 1895, when it was incorporated as a private limited company. Mr. Harry T. Shaw retired in 1906, and Mr. Chittick continued as managing director until 1908, when he relinquished the active management, retaining the position of permanent director and chairman.

DILUTION OF LABOUR.

HAVING been asked for a statement as to the information on which he based his statements that trade union regulations were preventing the entry of workmen into particular trades, and thus delaying housing schemes, the Prime Minister on Tuesday last stated that the question of the augmentation of the supply of building labour was affected not so much by specific regulations as by adherence to practice and custom. Although it was admitted that there was an insufficiency of apprentices in the building trade, and many ex-Service men were available, up to the present the age limits for the admission of apprentices to the building trade had not been altered, and, while agreeing in principle to the training of disabled ex-Service men, the building trade unions had more than once definitely refused to consider the admission of any other classes of adults to skilled trades.

Of the various crafts the principal shortage was stated to be found in the case of bricklayers, slaters and plasterers. For each of these crafts recruiting from labourers obtained to a certain extent. It was the opinion of the Government that this practice could be greatly increased with advantage to the progress of house-building. The most important shortage was that of bricklayers, and that was the craft in which the age of entrance was highest and the period of training the shortest.

The executives of all the building trade unions, with one exception, had agreed in principle to the scheme for training disabled ex-Service men. The only exception was the slaters, whose trade was not suitable for disabled men. The local branches of the building trade unions enjoyed a large measure of local autonomy, and in some areas and in some trades the local branches of the unions had objected to training. In a few places this attitude had been justified by the state of employment amongst skilled men, but there had been cases where this excuse did not hold good.

For instance, in London the plumbers had refused to allow disabled men when trained as plumbers to be employed in any but an unskilled capacity. At Bristol the local branch of the Operative Bricklayers' Society had refused to allow men trained as bricklayers to be employed, and elsewhere branches of this society had objected to men being trained as bricklayers. Local branches of the Carpenters' and Joiners' Society had in some areas refused to co-operate in the training or had obstructed the placing out of trainees; in the case of carpenters and joiners there was good reason to think that explanation and argument would remove the objections.

The King's National Roll.

The first edition of the "King's National Roll," containing the names, addresses and trade descriptions of employers who have given undertakings for the employment of disabled men under the national scheme, to the end of 1919, is now in circulation, and contains nearly 10,000 names. Under the scheme, the employer has to sign an undertaking that his staff shall include a percentage of disabled men, the percentage being agreed with the Local Employment Committee. In return, the employer has his name placed on the King's National Roll, which is kept for the present at the headquarters of the Ministry of Labour, and is given the right to use a distinctive "seal of honour" on his business stationery. The names of the signatories to the scheme are arranged in alphabetical order by counties, for easy reference.

In the House of Commons last week, the Prime Minister said that if he thought that within a reasonable time all Government contractors would not register their names on the King's Roll, he was prepared to seek the authority of the House for refusing contracts, but some further time must be allowed to employers to make arrangements for absorbing a requisite percentage of disabled ex-Service men into their employment before compulsory measures were instituted.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue several prices have been revised.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.	£ s. d.
Best Stocks	4 10 0

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons	3 2 6	Best Blue Pressed Staffordshire	9 11 0
Best Stourbridge Fire bricks	11 10 0	Do. Bullnose	9 13 6
		Blue Wire Cuts	7 18 6

GLAZED BRICKS—

Best White, Ivory, and Salt Glazed Stretchers	24 0 0	D'ble Str'tch'rs	31 10 0
		D'ble Headers One Side and two Ends	28 10 0
Headers	23 10 0	Two Sides and one End	32 10 0
Quoins, Bullnose and 4½in. Flats	29 10 0	Splays and Squints	33 10 0
			31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £5 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.		
Thames Ballast	19 6	per yard.	delivered
Pit Sand	23 6		
Thames Sand	25 6	" "	2 miles
Best Washed Sand	24 6	" "	radius
½in. Shingle for Ferro-Concrete	23 6	" "	Paddington.
¼ in. " "	24 6	" "	

Per ton. delivered in London area.

	£ s. d.		£ s. d.
Best Portland Cement	3 18 6	..	4 4 0

71/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above. 5 0

Best Ground Blue Lias Lime 2 16 0 at rly. depot.

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 61s. 0d. per ton delivered.
Stourbridge Fireclay in s'cks 43s. 6d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 4
Do. do. delivered on road waggons at Nine Elms Depot	2 5
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Mileage Station G.W.R., per ft. cube	4 3
Do. do. delivered on road waggons at above stations, per ft. cube	4 4
White basebed, 3d. per ft. cube extra.	
NOTE.—½d ft. cube extra for every foot over 30 ft. average, and ½d. beyond 30 ft.	
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station London.	s. d.
Scappled random blocks ..... Per Ft. Cube	11 9
9 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per Ft. Super	8 1½
6 in. rubbed two sides, ditto ..... "	9 1½
3 in. sawn two sides slabs (random sizes) "	3 7½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... "	2 2
1½ in. to 2 in. ditto, ditto ..... "	1 10
HARD YORK—	
Delivered at any Goods Station London.	
Scappled random blocks ..... Per Ft. Cube	8 9
9 in. sawn two sides landing to sizes (under 40ft. super.) ..... Per Ft. Super	7 0
6 in. rubbed two sides ditto ..... "	8 3
4 in. sawn two sides slabs (random sizes) "	3 3
3 in. ditto, ditto "	4 4
2 in. self-faced random flags .. Per Yard Super	10 6

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	60 0	per standard
4 × 9	48 0	"
4 × 8	46 5	"
4 × 7	46 0	"
3 × 8	46 0	"
3 × 7	46 0	"
2½ × 7	46 0	"
3 × 6	45 0	"
3 × 11	60 0	"
2 × 11	60 0	"
3 × 9	52 0	"
3 × 9	52 0	"
3 × 4½	45 0	"
3 × 4	45 0	"

PLANED BOARDS.

1 × 11	65 0	"
1 × 9	50 0	"

PLAIN EDGE FLOORING.

Inches		
⅝	34/-	square
¾	40/-	"
1	44/-	"
1¼	55/-	"
1½	65/-	"

TONGUED AND GROOVED FLOORING.

Inches		
1	45/6	square
1¼	56/6	"
1½	66/6	"

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
¾	34/-	square
1	40/-	"
1¼	54/-	"

BATTENS.

Inches	£ s.	
¾ × 2	39 10	per standard

SAWN LATHS.

Per bundle	—

Dry Wainscot Oak, per ft. super, as inch	0	2	6	to	0 3 0
¾ in. do. do.	0	2	0	to	0 2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	2	6	to	0 3 0
Cuba Mahogany	0	3	6	to	0 4 0
Teak (Rangoon, Moulmein or Java), per load	60	0	0	to	85 0 0
American Whitewood planks, per ft. cube	0	18	0	to	1 0 0
Scotch Glue, per cwt.	5	5	0	..	—
Liquid Glue, per gal'on	0	17	0	..	—

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	55 0 0
" " "	22 by 12	44 7 6
First quality "	22 by 11	40 15 0
" "	20 by 12	40 7 6
Best Blue Portmadoc	20 by 10	35 0 0
" "	18 by 10	27 17 6
First quality "	18 by 9	22 15 0
" "	16 by 10	21 10 0
" "	16 by 8	16 17 6

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	6 15 0
Ditto hand-made ditto	7 0 0
Ornamental ditto	7 2 6
Hip and valley tiles (per dozen)	0 15 0

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	30 0 0
Plain Compound Girders	32 0 0
" Stanchions	34 0 0
In Roof Work	39 0 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £10 net value delivered direct from works. 5 per cent. less carriage forward if sent from London stocks.)

	Sizes up to and including 2 in.		Sizes 2½ in. to 6 in.	
	Tubes.	Fittings.	Tubes.	Fittings.
Gas	10	12½	12½	25
Water	1½	7½	5	22½
Steam	+8½	—2½	+3½	—20
Galvanised Gas	+15	—2½	+12½	—15
" Water	+26½	+2½	+22½	—12½
" Steam	+37½	+7½	+32½	—10

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts.	5 6	4 0	4 10
2½ in. "	6 8	4 5	6 0
3 in. "	8 1	4 10	7 3
3½ in. "	9 0	6 0	8 5
4 in. "	9 6	6 10	9 8

RAIN-WATER PIPES, &C.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6fts. plain	4 0	2 3	3 0
2½ in. " "	4 6	2 8	3 8
3 in. " "	5 6	3 3	4 10
3½ in. " "	6 6	3 10	5 8
4 in. " "	6 9	4 8	6 10

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices. 4 in., 12s. .. 5 in., 15s. .. 6 in., 18s.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	32 0 0	to	33 0 0
Staffordshire Crown Bars—good merchant quality	33 0 0	..	34 0 0
Staffordshire "Marked Bars"	34 0 0	..	35 0 0
Mild Steel Bars	34 0 0	..	35 0 0
Steel Bars, Ferro-Concrete quality, basis price	34 0 0	..	35 0 0
Hoop Iron, basis price	38 0 0	..	40 0 0
" " Galvanised	56 0 0	..	60 0 0
Sheet Iron Black—			
Ordinary sizes to 20 g.	48 0 0	..	50 0 0
" " 24 g.	49 0 0	..	51 0 0
" " 26 g.	51 0 0	..	53 0 0
Sheet iron, Galvanised flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	56 0 0	..	58 0 0
Ordinary sizes to 22 g. and 24 g.	57 0 0	..	59 0 0
Ordinary sizes to 26 g.	59 0 0	..	60 0 0
Ordinary sizes to 20 g.	56 0 0	..	58 0 0
" " 22 g. and 24 g.	57 0 0	..	59 0 0
Ordinary sizes to 26 g.	59 0 0	..	60 0 0

METALS (*Continued*).

	Per ton in London £ s. d.		£ s. d.
Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 8 ft. 20 g.	58 0 0	..	60 0 0
Ordinary sizes, 22 g. and 24 g.	59 0 0	..	61 0 0
Ordinary sizes, 26 g.	60 0 0	..	63 0 0
Sheet Iron, Galvanised, flat, best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	58 0 0	..	60 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	59 0 0	..	61 0 0
Best Soft Steel Sheets, 26 g.	61 0 0	..	62 0 0
Cut Nails, 3 in. to 6 in.	37 10 0	..	38 0 0

(Under 3 in. usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.		£ s. d.
LEAD Sheet, English, 4 lb. and up	61 0 0	..	—
Pipe in coils	61 10 0	..	—
Soil Pipe	64 0 0	..	—
Compo pipe	65 0 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 1s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	41 10 0	..	—
Do., ex country, carriage forward ..... per ton	42 10 0	..	—
COPPER—			
Strong Sheet .... per lb.	0 2 3	..	—
Thin " .... "	0 2 4	..	—
Copper nails .... "	0 2 3	..	—
Copper wire .... "	0 2 4	..	—
TIN—English Ingots "	0 4 0	..	—
SOLDER—Plumbers' "	0 1 10	..	—
Tinmen's "	0 2 6	..	—
Blowpipe "	0 2 11	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES

	Per Ft.		Per Ft.
16 oz. fourths	8d.	32 oz. fourths	11d.
" thirds	8½d.	" thirds	1/-
21 " fourths	9d.	Fluted, Obscured and Enamelled Sheet.	
" thirds	9½d.	15 oz.	10d.
26 " fourths	10d.	21 "	1/-
" thirds	11d.		

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	6½d
⅛ Rough rolled and rough cast plate	7½d.
⅛ Rough rolled and rough cast plate	8½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic Arctic, Stippolyte, and small and large Flemish white	7½d.
Ditto, tinted	9½d.
Rolled Sheet	7d.
White Rolled Cathedral	7d.
Tinted do.	9d.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil	in pipes ..... per gallon	0 11 9
" " "	in barrels .... "	0 12 0
" " "	in drums .... "	0 12 2
Boiled " "	in barrels .... "	0 12 6
" " "	in drums .... "	0 12 9
Turpentine	in barrels ..... "	0 20 4
"	in drums (10 gall.) .. "	0 20 10
Genuine Ground English White Lead, per ton (In not less than 6 cwt. casks.)		90 15 0
GENUINE WHITE LEAD PAINT— "Nine Elms," "Park," "Supremus," and other best brands (in 14 lb. tins) not less than 5 cwt. lots .. per ton delivered		124 5 0
Red Lead, Dry (packages extra) ..	per ton	75 0 0
Best Linseed Oil Putty	per cwt.	1 14 0
Filocot	per cwt.	0 18 0
Size. X D Quality	fkn.	0 6 6

VARNISHES, &c.

		Per gallon £ s. d.
Oak Varnish	Outside	0 18 0
Fine ditto	ditto	1 0 0
Fine Copal	ditto	1 1 6
Pale Copal	ditto	1 2 6
Pale Copal Carriage	ditto	1 4 6
Best ditto	ditto	1 14 6
Floor Varnish	Inside	0 19 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal flatting	ditto	1 0 6
Hard drying Oak	ditto	0 18 0
Fine Hard drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 6
Pale ditto	ditto	1 2 6
Best ditto	ditto	1 14 6
Best Japan Gold Size		0 16 0
Best Black Japan		0 19 0
Oak and Mahogany Stain (water)		0 10 0
Brunswick Black		0 11 0
Berlin Black		0 16 0
Knotting (patent)		1 18 6
French and Brush Polish		1 11 0
Liquid Dryers in Terebine		0 19 0
Cuirass Black Enamel		0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PROPOSED NEW BUILDINGS AND OTHER WORKS.

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations.—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ALDERSHOT.—Plans passed:—House, North-lane, for Mr. W. Holmes; bungalow, Boxall-lane, for Mr. F. Snuggs.

AYR.—The Dean of Guild Court has granted the following warrants: To the Western Meeting Club to erect huts at Ayr Racecourse; new offices and showrooms at the garage of Messrs. Claud Hamilton, Ltd., Holmston-road, Ayr; and for alteration of the dwelling house, "Gartferry," Racecourse-road, Ayr, by Mr. C. D. M'Cree, Windsor-terrace, Glasgow.

BANGOR.—Plans passed: House, Bryansburn-road, for Mr. Robert McClay; house, Donaghadee-road, for Mr. R. J. Agnew; alterations and additions, "Royal" Hotel; garage, Ward-avenue, for Mr. Stewart Frew; alterations and additions, Messrs. S. G. Montgomery & Co., Ltd., Main-street; house, Ward-avenue, for Mr. James M. Whiteside; house, Railway-view-street, for Mr. Thomas H. Gray; house, College-avenue, for Mr. Hugh Kyle; two houses, Seacliff-road, for Mr. Gordon O'Neill; house, College-avenue, for Mr. H. Gaw; terrace house, Victoria-road, for Mr. Robert Barnes.

BEDDINGTON.—Plans passed by U.D.C., Two cottages, Farm-road, for Mr. H. M. Thornton, "The Old House," Purley; four houses, Grosvenor-road, for Mr. W. Martin, 160, Selsdon-road, Croydon; nine houses, Sandy-lane South, for Mr. A. J. Morris, "The Bungalow," Stafford-road, Wallington; two houses, Hillcrest-road, Purley, for Messrs. E. & A. Wates, of Purley; a timber cottage, Plough-lane North, for Mr. F. J. Freyburg, "The French Gardens," Plough-lane.

BELFAST.—Plans passed: Pavilion, Hawthornden-road, for the Knock Rugby Football Club; buildings, Lower Windsor-avenue, for Messrs. Lamb Bros.; additions, engineering works, Ravenhill-avenue, for Mr. J. C. Stewart; motor garage and offices, Albert-bridge-road, for Dr. William Gibson; alterations to premises, Durham-street, for Templeton & McCready; store, Crumlin-road, for the Edenderry Spinning Co., Ltd.; store, Market-street, for J. Arnott; alterations to houses, Park-road, for J. W. Mercier; alterations to picturedrome, Shankill-road, for Mr. J. McKibben; store, Thalia-street, for Sarah Hamilton; workshop, Donegall-street, for J. Moffett; two shops, stores, additions to motor garage, Great Victoria-street, for Leslie Porter, Ltd.; additions to motor garage, Chichester-street, for J. F. Stevenson; additions to house, Malone-road, for S. J. McDowell; alterations to factory, Linenhall-street, for W. J. Jenkins & Co.; alterations to offices, Victoria-street, for Cullen & Allen, Ltd.; motor house, Brookhill-avenue, for D. Wilson; additions to house, Lisburn-road, for J. Shaw; motor house, Malone-park, for E. H. Shaw; alterations to shop front, York-street, for J. McCusker; house, Grasmere-gardens, for J. Alexander; workshop and offices, Sydenham-road, for the Sunderland Forge Engineering Co., Ltd.; alterations to premises, Crumlin-road, for T. Sterling Ltd.; motor house, Osborne-gardens, for C. J. Agnew; alterations to shops, Castle-street, for A. Mezza; three shops, &c., Mill-street, for the City Brush Co.; two houses, Sagamor-gardens, for H. Mills; four houses, Bawnmore-road, for F. Curley; drying-house to distillery, for Dunville & Co., Ltd.; drying kiln, Great Northern-street, for the Non-Poro Cement Co.; motor house, Chichester-park, for C. H. Martin; additions to house, Belmont-road, for W. Lowden; additions to shop and store, Newtownards-road, for Lee & Co.; additions to premises, Oxford-street, for Bank of Ireland, Ltd.; motor house, Osborne Park, for W. Scott; alterations to premises, King-street, for A. Neill, Ltd.; two houses, Cadogan-park, for J. Ireland; alterations to mill, Beersbridge-road, for the Belfast Jute and Flax Co., Ltd.; twelve houses, Castlereagh-road, for the Dixon Estates Co., Ltd.; store near Antrim-road, for H. J. Hildersley; seven houses, Shore-road, for R. H. Kinahan; conversion of house into shop in Antrim-road, for James Davidson; additions to store at Clarke's-lane, for L. Berwitz; additions to house, Earlswood-road, for R. Martin; additions to mill, Linfield-road, for the Ulster Spinning Co.; conversion of store, &c., into house in Malone-road, for S. Gibson; additions to factory, Mornington-street, for N. Duncan; preserve works, Lower Windsor-avenue, for Lamb Bros.; conversion of premises, &c., into bank in Ann-street, for the Provincial Bank, Ltd.; workshop, Galway-street, for Purdy & Millard; three houses, Salisbury-avenue, for J. Chatfield; additions to houses, Osborne park, for M. Crosbie; alterations to premises, Bridge-end, for D. Charlton; house, Park-road, for T. Diamond; alterations to shop and house, North-street, for L. McCann.

BETHNAL GREEN.—The B.C. proposes borrowing £27,500 for the Diss-street improvement scheme.

CARSHALTON.—Plans passed by U.D.C.: Bungalow, Windborough-road, for Mr. T. G. Baker; six cottages, Wallace-crescent, for Mr. C. H. Runnels, Sutton; bungalow, Green Wrythe-lane, for Mr. N. J. Dyer, Croydon; house, Salisbury-road, for Mr. F. W. Rees, Croydon.

COOKSTOWN.—The Cookstown Electric Picture House are about to erect a picture house on the Fair-hill, from plans and specifications prepared by Mr. A. M. Brennan, C.E., Burn-road, Cookstown.

EDINBURGH.—The Tramway Committee recommends reconstruction of the depots at Portobello and Shrubhill at a cost of between £25,000 and £30,000.

GLASGOW.—At the Dean of Guild Court, the following linings were granted: Maryhill Masonic Lodge, to alter and add to buildings, Wilton-street: Barclay, Curle & Co., Ltd., to erect a store, James-street, Whiteinch; Robert Alford, 32, Tobago-street, to erect a factory, Howard-street and Rumford-street; James Fulton, jun., 118, Queen-street, to erect a store, 119, Drygate; the Corporation of Glasgow, to erect electricity sub-stations, Cathedral-street and Mauldslie-street, Partick; James A. Wyllie, 219, St. Vincent-street, to erect a house, Letham-drive, Newlands; the trustees of Westbourne Church, to erect a hall, Gairbraid-street; John Sebastian Brook, 5, Hazel-avenue, Cathcart, to erect a bungalow, Fernleigh-road, Merrylee.

HARROGATE.—The Ministry of Health has held an enquiry into the application of the Corporation to borrow £27,000 for extensions to the Royal Baths.

HARWICH.—The Co-operative Society proposes to erect a hotel in Church-street.

HENDON.—Plans passed by U.D.C.: Two houses, Sneath-avenue, Mr. G. H. King; a pair of houses, Hodford-road, Mr. W. S. Gibson; 56 houses, The Vale, Mr. E. Streather; 12 houses, Mill-way, Mill Hill, Mr. E. Streather; a bungalow, Flower-lane, Mill Hill, Mr. C. M. Gunner; house, Sylvan-avenue, Mr. T. H. King; five houses, Ambrose-avenue, Mr. G. H. King; two houses, The Riding, Messrs. Edmondsons; nine houses, Golders Manor Drive, Mr. W. T. Streather; 27 houses, Garrick-avenue, and seven, Ambrose-avenue, Mr. E. Wright; four houses, Elmcroft-avenue, six houses, Wentworth-road, and pair of villas, Ravenscroft-avenue, Mr. B. Young; pair of houses, Egerton-gardens, Mr. H. B. Cartwright; 16 bungalows, Sinclair-grove, Mr. F. Howkins; two houses, Finchley-road, Mr. W. S. Gibson; seven houses, Babington-road, Mr. H. Ebdon.

HEATH.—An inquiry has been held into the application of the Corporation to borrow £34,000 for the gas undertaking.

NELSON.—Plans passed by T.C.: Garage, Scotland-road, for Mr. Shuttleworth; weaving shed, Eagle-street, for V. E. Haughton, Ltd.; alterations, "Wolf Dene," for Mr. W. E. Sleding; shop fronts, 159 & 161, Railway-street, for Dr. Flack; alterations, 40, Scotland road, for the Co-operative Society; alterations, "Fern Bank," for the Mother Superior.

OSSETT.—Plans passed: Engine house and tank tower, Manor Mills, for Messrs. Jenert & Rodley; offices and stables, Moorcraft-street, for Messrs. Hepworth Bros.; alterations, house, Dale-street, for Mr. T. English.

RYTON.—Plans passed: 28 houses, Greenside, for the Stella Coal Co.

SCULCOATES.—Plans passed by R.D.C.: House, Ferriby, for Mr. H. Archer; conversion of Aston Hall, Ferriby, into two houses; conversion of the Manor Farmhouse, Preston, into house; house, Holderness-road, Sutton, for Mr. J. Coates; bungalow, Spring Head-road, Anlaby, for Mr. Emmerson.

SOUTHEND-ON-SEA.—Plans passed: Bungalow, Scarborough-drive, for Mr. F. W. Goldsworthy; two bungalows, Chalkwell Park-drive, for Mr. J. J. Blanch; bungalow, Elmsleigh-drive, for Mr. W. Swires; bungalow, Tankerville-drive, for Mr. S. Sanders; two houses, Lindisfarne-avenue, for Mr. E. F. Selby; bungalows, Western-road, London-road, Elmsleigh-drive and Scarborough-drive, for Mr. F. W. Goldsworthy; bungalow, Theobalds-road, for Mr. A. H. Mackenzie; house, Westcliff-drive, for Mr. F. Lowry; two bungalows, Southbourne-grove, for Mr. T. J. Dennis; bungalow, St. Clement's-avenue, for Mr. W. Swires; alterations, "Wendover," Hadleigh-road, for Mr. W. J. Edwards; garage, Oakleigh Park-drive, for Mr. W. V. Hurst; bungalow, Silversea-avenue, for Mr. A. F. Berridge; conservatory, 36, Valkyrie-road, for Mr. A. S. Turner; house, Westcliff-drive, for Mr. O. Krise; office, Fleetwood-avenue, for the D.P.W. House Construction Co., Ltd.; garage, 7, Anerley-road, for Mr. N. Horwitz; two houses, Warwick-road, for Messrs. Johns Bros.; six houses, Eastwood-road, for the Essex County Council Small Holdings Committee; store, East-street, for Mr. F. W. Scott; two houses, Christchurch-road, for Mr. F. G. Harrod; extension, 59, Lovelace-gardens, for Mr. G. P. Greenwood; two houses, Southborne-grove, for Mr. J. French; house and two garages, Sandleigh-road, for Mr. H. Annereau; 10 bungalows, eight in Fairfax-drive and two in North-view-drive, for the D.P.W. House Construction Co., Ltd.; garage and showroom, London-road, for Mr. J. Williams; two bungalows, Leigh Hall-road, for Mr. C. F. England; bungalow, Nelson-road, for Mr. W. Goodhew; bungalow, Macdonald-avenue, for Messrs. Wells & Barham; bungalow, Station-road, Leigh-on-Sea, for Mr. W. Mackie; bungalow, Fleming-crescent, for Mr. J. E. Hobbs; bungalow, Lansdowne-avenue, for Mr. W. L. Knight; four houses, Burges-road, for Mr. C. Matthews; two houses, Station-road, Leigh-on-Sea, for Mr. G. Spurgeon; two houses, Acacia-drive, for Mr. W. Saville; house, Vernon-road, for Mr. D. Matcham; bungalow, Sandown-avenue, for Mr. S. A. Cron; two houses, Southbourne-grove, for Messrs. Rogers and Clapton; four bungalows, Darlinghurst-grove, for Mr. A. Bothwell; two bungalows, Cliff-avenue, for Mr. T. J. Wicken; bungalow, Sandleigh-road, for Mr. F. J. Gregory; two bungalows, Dawlish-drive, for Mr. M. J. Foreman; two bungalows, London-road, for Messrs. Twitchett & Hood; bungalow, Fleetwood-avenue, for Mr. A. G. Pickard; bungalow, Albion-road, for Mr. F. W. Taylor; house, Fleetwood-avenue, for Mr. A. Berry; two bungalows, Southbourne-grove, for Mr. T. J. Dennis; garage, Drake-road, for Mr. R. C. Wren; two houses, Dundonald-drive, for Mr. C. Scott; additions, "Rosedale," King's-road, for Mr. D. Arrobus; house, Tyrone-road, for Mr. J. Wilson; house, Leighcliffe-road, for Mr. M. Watmough; additions, York House, Grosvenor-road, for Misses Loveys and Taylor; house and garage, Woodfield Park-drive, for Mr. T. A. Walton; three houses, Dawlish-drive, for Mr. J. R. Marshall; house, Grand-parade, for Mr. C. Prentis; motor garage, 28, Warrior-square, for Mr. H. Moore; additions, 20, Royal-terrace, for the Service and Ex-Service Committee; balcony, 8, Genesta-road, for Mr. H. Horwitz; additions, 46, Ditton Court-road, for Mr. J. Magrini; additions, "The Gables," Electric-avenue, for Mrs. Byatt; house, Herschell-road, for Mr. H. J. Critoph; two houses, Boston-avenue, for Mr. Saunders; additions, 85, West-road, for Mr. Payne; workshop, West-road, for Mr. G. Dawes; 13 houses, Ronald Park-avenue, for Mr. C. Hughes; alterations and additions, 147, High-street, for Messrs. H. Garon, Ltd., alterations, 105, Hamlet Court-road, for Boots, Ltd.; four houses, Westborough-road, for Mr. E. G. Pounder; six houses, Eastwood-lane, for Mr. J. Burrill; three houses, Pall-mall, for Mr. W. Hurst; house and shop, Fairfax-drive, for Mr. H. Walton; conversion of house into flats, 48, Meteor-road, for Mrs. Turton; garage, 46, Ditton Court-road, for Mr. J. Magrini; store and covered way, London-road, for Mr. W. Seager.

THORNABY.—Warehouse and workmen's club, Glasgow-street, for Messrs. Allen & Sons.

UXBRIDGE.—Plans passed by R.D.C.: Eight cottages at Harefield, for the British Portland Cement Co.

WANDSWORTH.—Plans passed by B.C.: Messrs. Simmonds Bros., Ltd., additions to 310, Merton-road, Southfield; Messrs. J. & C. Bowyer, Ltd., erection of new London County Council School, Allfarthing-lane School, St. Ann's-hill, Fairfield; Messrs. Palmer's Travelling Cradle and Scaffold Co., Ltd., shed and lavatory accommodation at 18, Balham-hill; Messrs. F. T. Wooding & Sons, eight houses (two with garages), Moyser-road, and house, Pendle-road, Streatham; Mr. W. L. Cook, house, corner of Heathdene-road and Fontaine-road, Streatham; Messrs. Simmons Bros., lavatory accommodation, North House, Putney-hill; Mr. G. A. Gale, motor and store shed, Oakhall-road; Messrs. Holliday & Greenwood, Ltd., additions, Tooting High-street; Messrs. W. Kerr, Ltd., lavatory accommodation and re-drainage, 51, Bickersteth-road, Tooting; Messrs. J. Garrett & Son, additions to engine house and partial re-drainage of "Sycamore" Laundry, Old Town, Clapham North; Mr. C. H. Kempton, garage, 5, Amersham-road, Putney; Messrs. Chapple & Utting, garage, 131, Babington-road, Streatham; Messrs. Edwin Evans & Sons, workshops, &c., 74 & 76, East-hill, Fairfield; Messrs. Bethell & Swannell, alterations to drainage at Messrs. Taylor's Bakery, Furzedown Market, Tooting; Mr. J. Parsons, factory, 45, Nightingale-lane, Balham; Messrs. Jones Bros., garage, 126, Upper Tooting-road, Balham; Mr. R. Bilham, eight houses, Emmanuel-road, and eight houses, Thornton-road, Clapham South; Messrs. Daniels & Son, house and garage, 9, Castello-avenue, Putney; Messrs. J. F. Stonehewer & Sons, re-drainage, 9, 11 & 13, Coligny-street, Fairfield; Mr. E. H. Dance, re-drainage, 98, High-street, Putney; Messrs. W. & C. Brown, Ltd., re-drainage, 1A, The Plain, Fairfield; Messrs. G. Candler & Sons, re-drainage, 14, Leigham Court-road, Streatham; Messrs. Waite & Smith, re-drainage, 10 & 12, Turrett-grove, Clapham, North; Mr. W. Shute, re-drainage, "The Park" Tavern, Morton-road, Southfield; Mr. F. J. Rashbrook, re-drainage, 29, Cedars-road, Clapham, North; Mr. G. W. Beattie, conversion into flats and additions to drains, 313, Upper Richmond-road, Putney; Mr. H. E. Wates, 17 houses, Fontaine-road, 28 houses, Strathbrook-road, and eight houses, Green-lane, Streatham; The Artisans' Labourers' & General Dwellings Co., Ltd., two houses at corner of Nuthurst-avenue and Normanhurst-road, Streatham.

FIRES

PONTYPRIDD.—Severe damage has been done by fire at the premises of Messrs. Morgan Bros. at Pwllgwaun.

SHEFFIELD.—By a fire at the Sylvester Cutlery Works (Messrs. Ryalls, Turner & Co.) £10,000 damage was done.

WAGES ARBITRATION AWARD.

Blackburn.

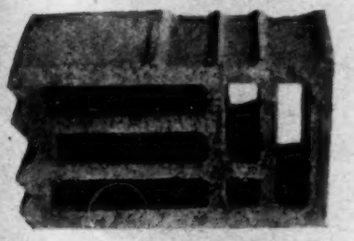
THE Industrial Court in London, on Tuesday last, gave an award in the application of building trade operatives employed at Blackburn. The case was heard between the Blackburn Branch of the National Federation of Building Trade Operatives and Messrs. Thomas Higson & Sons, Blackburn. The question for the Court to settle was the prescribed or substituted rates of wages applicable to certain classes of workmen in the employment of the firm concerned.

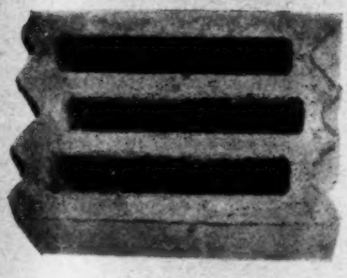
The decision of the Court was that in so far as the men concerned were engaged on work required for Messrs. Higson & Sons' business as builders and joiners, the prescribed rate was that applicable to sawyers in the building trade, and that a rate of 1s. 9d. an hour was substituted from October 31, 1919. In so far as the men were engaged on work otherwise than for the firm's business as builders and joiners, the prescribed rate was 1s. 3½d. an hour for which no rate has been substituted in the sense of the Wages (Temporary Regulation) Act, 1918.

NEW INVENTIONS.

The "Léan" Concrete Block.

The "Léan" hollow concrete block forms a wall divided into a number of air-spaces in such a way that the temperature of the contained air gradually diminishes from the interior layer to the outer one, thus assuring a fairly equable temperature inside the building and, to a large extent, preventing condensation. The blocks are made with two and three air spaces; in the latter case, tests have shown that, with an outside temperature of 32 deg. Fah. and an inside temperature of 65 deg., the temperature in the first channel is 42 deg.; in the second channel, 48 deg.; and 53.6 deg. in the third channel. The ends of the blocks are made so that when they are laid the same number of air spaces are formed between the blocks as there are in the blocks themselves; in no part, therefore, is a wall built with "Léan" blocks solid throughout. It is claimed that the insulating efficiency of an 8 in. wall built with these blocks is equal to a 19 in. brick wall.





"Léan" Concrete Blocks.

The machines for making the blocks are made by the British Léan Co., Ltd., of 11, Suffolk-street, Pall-mall East, S.W., from whom they may be hired on a royalty basis. The blocks with two air spaces measure 12 in. × 6 in. × 6 in.; and those with three air spaces, 12 in. × 8 in. × 6 in. It is claimed that three men can turn out 100 blocks per hour with one machine; and that one trained man can lay 72 of the smaller, or 54 of the larger, blocks per hour. The buildings illustrated on this page have been erected in Dorset.

Cottages constructed with "Léan" Concrete Blocks.

NEW METHODS AND MATERIALS.

The following materials and new methods of construction have been approved by the Standardisation and Construction Committee of the Ministry of Health:—

J. H. & W. C. Mangan, Preston.—J. Parkinson & Sons' (Blackpool) system of concrete construction with reinforced stanchions and beams, the spaces between being filled in with slabs so as to form a cavity wall.

W. Hamilton, Henley-on-Thames.—A system of concrete *in situ* walling, having a cavity which is filled with a pre-cast vertical damp course, which is built up stage by stage as the concrete is filled in.

C. Giles, Henley-on-Thames.—Concrete *in situ* walling, in which a cavity is formed as the work proceeds, the core being drawn and the space being filled with a poured vertical damp course.

F. A. Brown, Clifton, Bristol.—Concrete blocks made of ballast concrete with a dovetail shaped groove on the inside face into which a concrete dovetail is fixed and grouted, thus forming a cavity wall.

A. H. Attwater, London, E.C. 4.—Concrete blocks made of clinker, sand and cement, having two connecting concrete ties cast on, forming a hollow concrete block, with vertical and horizontal air space.

Farm-Buildings constructed with "Léan" Concrete Blocks.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than first post on Wednesday*. (Owing to the Easter Holidays, the latest time next week will be first post Tuesday).

* Denotes *accepted*. † Denotes *provisionally accepted*.

‡ Denotes *recommended for acceptance*.

‖ Denotes *accepted subject to modifications*.

ALDERSHOT.—For erection of public conveniences at (*a*) the Recreation Ground and (*b*) Barrack-road:—
*James Crockefell ....£1,043 10s., and £882 10s.

BILLERICAY.—For erection of 16 cottages at Great Bursted, for the R.D.C.:—
*Harris Bros., Billericay £17,982

BRAINTREE.—Erection of four houses at Bocking, for the R.D.C.:—
*E. G. Warren, Braintree £3,500

BRAINTREE.—For repair of Shelbourne and Stisted bridges, for the R.D.C.:—
*A. J. Arnold £479

COVENTRY.—For new roads and drainage, for the Canley Garden Society, Ltd. Mr. R. E. Matthews, architect, 42, Earl-street, Coventry:—
*S. W. S. Saunders..... Birmingham.

DARTFORD.—For domestic hot-water supply system and radiator heating of Infirmary Wards, Administrative Block and Nurses' Quarters at the West Hill Institution, Dartford, for the Guardians. Mr. Wingfield-Bowles, consulting engineer, 28, Victoria-street, S.W. 1.

*Z. D. Berry & Sons, London	£2,904 0
Brightside Foundry and Engineering Co., Ltd., Sheffield	3,560 0
Colley & Co., Ltd., Great James-street, W.C.	3,420 0
Beaver & Sons, London	3,285 0
Gibson & Co., Dartford	2,992 10

GLASGOW.—Erection of 72 houses of five apartments at Kennyhill and Riddrie housing site, for the Corporation:—

*Brown, Fraser & Co., brick, &c., work	£32,607 0 0
*J. A. Mactaggart & Co., joiner work..	26,716 12 2
*William Lawrie, slater work	4,911 3 0
*M'Culloch & Given, plumber work ..	12,805 4 0
*G. Rome & Co., plaster work.....	4,015 11 0
*Johnstone & Robertson, painter work	1,716 3 0
*William Meikle & Son, glazier work..	447 18 4
Total	£83,219 11 6

GLASGOW.—For (*a*) grates, cookers, &c., for houses at Gilschochill, (*b*) grates and cookers for houses at Copiewhite, and (*c*) electric installations for houses at Copiewhite:—

(*a*) W. Miller Glasgow	£420 18 4
(*b*) W. Miller	2,738 16 0
(*c*) Johnston, Park & Co.....	2,865 0 3

GLASGOW.—Erection of club house, &c., in Meadowside Park, for the Corporation:—
F. D. Cowieson & Co., St. Rollox..... £473

GLASGOW.—Supply of eight water recorders to the Water Committee of the Corporation:—
*British Pitometer Co..... £1,250

GLASGOW.—Painting work at St. George's Parish Church, for the Corporation:—
*Norfolk Decorators, Glasgow £393

HANWELL.—Repair work to caretaker's rooms at Cemetery, for the Westminster C.C. :—

*E. H. Brooks, West Ealing	£115
Myring & Son, Ealing	134
A. Jamieson & Son, Hanwell	135

LONDON.—For painting work at cemeteries, for the Wandsworth B.C. :—

*British Renovating Co.	£251 4 9

LONDON.—For reconstruction of sewers in Moreton-place, Kinnerton-street and Ross-street, for the Westminster C.C. :—

*D. R. Paterson, Ltd., £4,074 3s. 4d.; £1,621 12s. 3d., and £783 10s.

LONDON.—Erection of handicraft centre at Barlby* road, Kensington, for the L.C.C. :—

*J. McManus, Ltd., Hammersmith	£1,547
H. H. Hollingsworth & Son, Peckham	1,755
Bovis, Ltd.	1,897
A. Roberts & Co., Ltd., Earl's Court	1,983
Triggs & Co., Clapham	2,062
Holliday & Greenwood, Battersea	2,015

LONDON.—Remodelling and enlarging Union-street school, for the L.C.C. :—

*J. Smith & Sons, Ltd., W.	£19,649 0 0
Wylie & Lochhead, Ltd., Bloomsbury	24,570 11 1
Higgs & Hill, Ltd., Lambeth	24,744 0 0

LONDON.—For erection of school for physically defective children at Southwark, for the L.C.C. :—

*C. P. Roberts & Co., Ltd., Dalston	£10,896 0
F. & T. Thorne, Isle of Dogs	11,887 10
Albert Monk, Lower Edmonton	11,937 0
W. J. Maddison, Minories	12,193 0
T. D. Long, Deptford	12,749 0
William F. Blay, Ltd., E.C.	13,407 0
G. Parker & Sons, Ltd., Peckham	13,904 0
McCormick & Sons, Ltd., Essex-road	13,940 0
Brand, Pettit & Co., Tottenham	13,955 0
W. Lawrence & Son, Ltd., Finsbury	14,376 0
Thomas & Edge, Woolwich	14,598 0
J. Appleby & Sons, Ltd., Rotherhithe	16,531 0

LONDON (BROCKLEY).—For the erection of 51 houses at Brockley, for the Deptford B.C. :—

*Edwards Construction Co., Ltd., Greenwich	£44,417

Basis price. Houses to be of concrete on cost-plus-percentage basis.

NEWMARKET.—For erection of 12 houses in pairs at Soham, for the R.D.C. Mr. L. E. Cole, A.R.I.B.A., architect, Rutland Chambers, Newmarket :—

*E. Johnson, Soham, Cambs.	£8,574

Exclusive of fencing, &c.

NEWTON ABBOT.—For lay-out of first part of housing scheme at Milber, for the U.D.C. :—

*Geo. Pollard & Co., Taunton	£6,600

NOTTINGHAM.—For restoration of wood fencing at Infirmary, for the B.G. Mr. E. R. Sutton, architect, Albion Chambers, King-street, Nottingham.—

*Long, T., & Son	£205 10
Rolley & Son	334 0
Bow, Thomas	269 0
Turner, F.	231 0
White & Kennewell	219 0

TENTERDEN.—For erection of a detached house, Appledore-road. Messrs. Harry Judge & Burtenshaw, architects, Tenterden :—

§R. Weeks & Son,	£2,216
W. Elliott & Son	2,289
Martin & Newman, Maidstone	2,350

WALSINGHAM.—For renovation of Children's Home, Little Snoring, for the B.G. Mr. W. O. Humphrey, surveyor, Fakenham :—

C. Tathill, Fakenham	£130

WARMINSTER.—For construction of surface water drain and sewers in connection with housing scheme, for the U.D.C. :—

*Mr. E. Ireland, Bath	£1,605
Engineer's estimate	1,620

TRADE NEWS.

Major A. P. W. Bamberger, D.S.O., and Mr. R. H. W. Bamberger, of Louis Bamberger & Sons, London, and of Taylor and Low Bros., Bristol, timber importers, desire us to state that their family is neither related to, connected with, nor acquainted with the parties in a recent law case.

Mr. F. R. Hipperson, building contractor, has removed from Northumberland-street, Norwich, to larger premises at Railway Works, Trowse, Norwich.

House Building in Spare Time.

It is reported that a working builder at Bo'ness has been granted an official warrant to erect for his own use a four-roomed house. With the aid of the Government subsidy he expects to be able to erect, in his spare time, a substantial dwelling for about half the £1,000 which the same house would cost to build under contract.

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